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WESTERN JOURNAL

OF

MEDICINE AND SURGERY:

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EDITED BY

LUNSFORD P. YANDELL, M. D.,

PROFESSOR OF PHYSIOLOGY AND PATHOLOGICAL ANATOMY IN THE UNIVERSITY OF LOUISVILLE,

AND

THEODORE S. BELL, M. D.

THIRD SERIES.

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On the Use of the Bandage in Gun-Shot Wounds, etc. By BENJAMIN WINSLOW DUDLEY, M. D., Professor of Anatomy and Surgery in the Transylvania University. Transylvania Journal of Medicine, etc., Vol. i., p. 501. 1828. - - - - - - 324

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SESSION OF 1849–'50.

Names.	*Residence.*	*Subject of Thesis.*
Allin, Henry C.	Kentucky,	Phthisis Pulmonalis.
Atkins, H. P.	Mississippi,	Malaria.
Austin, Ephraim T.	Tennessee,	Human Physiology.
Bagwell, Wiley J.	Tennessee,	Hydrocele.
Bartlett, John	Kentucky,	Gastritis.
Bass, Jordan J.	Kentucky,	Intermittent Fever.
Beatty, Joseph J.	Alabama,	Croup.
Bedford, William,	Kentucky,	Syphilis.
Blanks, Josephus P.	Kentucky,	Dysentery.
Bolling, John B.	Kentucky,	Pneumonia.
Boyer[illegible]li,	Indiana,	Typhus Fever.
Bray, [illegible]benezer,	Indiana,	Structure and Caries of Teeth.
Brook[illegible]rt, Jacob F.	Kentucky,	Typhoid Fever.
Burke[illegible]George W.	Tennessee,	Encephalitis.
Burks, David J.	Kentucky,	Relation of Local to Constitutional Disease.
Butler, J. Russell,	Kentucky,	Ovarian Sedation.
Cham[illegible]rs, Absalom B.	Kentucky,	Placenta Previa.
Cham[illegible]rs, Paschal H.	Missouri,	Chorea.
Chilton, Lisias F.	Kentucky,	Typhoid Fever.
Chinn, John W.	Kentucky,	Excito Motory Nerves.
Clark, John M.	Alabama,	Epidemic Cholera.
Clark, Jonathan,	Kentucky,	Pleuritis.
Cleaver, William W.	Kentucky,	Typhoid Fever.
Cloud, David.	Indiana,	One of the Endemic diseases of Orange county, Indiana.
Cole, Samuel H.	Texas,	Gastritis.
Conway, George W.	Kentucky,	Abortion.
Crutcher, S. F.	Tennessee,	Typhoid Fever.
Davidge, R. H. J.	Kentucky,	Emetics.
Davis, Daniel S.	Missouri,	Asiatic Cholera.
Douglass, Elmore,	Tennessee,	Pneumonia.
Embree, John W.	Kentucky,	Encephalitis.
Enders, Henry I.	Kentucky,	Lymph.
Evans, William R.	Kentucky,	Phenomena of Death.
Ewing, John A.	Tennessee,	Acute Inflammation.
Finucane, Dawson W.	Mississippi,	Acute Pneumonia.
Fox, Charles W.	Kentucky,	Gastritis.
Frost, Amos,	Indiana,	Rubeola.
Gano, Richard M.	Kentucky,	Tissues.
George, Harrison P.	Alabama,	The Passions and Changes in the attainment of Life.

Names.	*Residence.*	*Subject of Thesis.*
Geoghegan, Denton,	Kentucky,	Dysentery.
Goodwin, Albert L.	Kentucky,	Uterine Hemorrhage.
Goodwin, J. W.	Indiana,	Pathology of Inflammation.
Harris, Edwin E.	Missouri,	Acute Inflammation.
Harris, Francis B.	Alabama,	Cynanche Trachealis.
Hays, Cyrus W.	Kentucky,	Congestive Fever.
Hemphill, J. W.	Mississippi,	Continued Fever.
Hill, James H.	Kentucky,	Asiatic Cholera.
Hodge, Joseph A.	Kentucky.	Amenorrhea.
Hollingsworth, Benj. F.	Kentucky,	Intermittent Fever.
Holloway, J. W.	Kentucky.	Typhoid Fever.
Hunter, Henry H.	Mississippi,	Typhoid Fever.
Huston, William A.	Indiana,	Remitting Fever.
Jones, Fountain,	Kentucky,	Leucorrhea.
Jones, James T.	Alabama,	Scarlet Fever.
Kemp, Matthew,	Kentucky,	Amaurosis.
Kirkwood, Adam C.	Indiana,	Pericarditis.
Lane, Richard N.	Kentucky,	The science and practice of Medicine, as characterised in the city and country.
La Rue, John R.	Kentucky,	Pneumonia.
Lee, Henry C.	Missouri,	Croup.
Lytle, William H.	Tennessee,	Pleurisy.
Mac Clure, Robert G.	Tennessee,	Ptyalism.
Mac Davitt, Virgil,	Kentucky,	Cholera Infantum.
Marsh, Marlin,	Tennessee,	Remittent Fever.
Molloy, Milton B.	Tennessee,	Pneumonia.
Montgomery, John,	Kentucky,	Anatomy and Physiology of the Eye.
Mooney, Joseph B.	Alabama,	Habitual use of Tobacco.
Moore, Charles D.	Kentucky,	Hematemesis.
Morton, James S.	Kentucky,	Syphilis.
Mullens, James H.	Alabama,	Inflammation.
Muir, James L.	Kentucky,	Erysipelas.
Mumford, James H.	Louisiana,	Epidemic Cholera.
Newland John W.	Indiana,	Simple Acute Pneumonia.
Overton, Samuel	Tennessee.	Tetanus.
Parker, J. W. F.	Kentucky,	Concussion and Compression of the Brain.
Payne, Stokeley, T.	Indiana,	Abuse of Medicine.
Pinckard, Adolphus,	Kentucky,	Physiology of Digestion.
Pinkston, Alexander R.	Tennessee,	Amaurosis.
Postlethwaite, William,	Kentucky,	Dyspepsia.
Powell, Joseph B.	Mississippi,	Dysmenorrhea.
Ragland, William J.	Tennessee,	Colitis.
Rand, John W.	Alabama,	Pneumonia.
Reader, William,	Indiana,	Epidemic Erysipelas.
Rigney, Levi M.	Kentucky,	Typhoid Fever.
Robinson, Guthridge L.	Tennessee,	Hygiene.
Roscoe, Alexander H.	Tennessee,	Primary Syphilis.
Royster, John S.	Kentucky,	Gonorrhea.
Sanders, William T.	Alabama,	Quinine as a remedial Agent.
Selby, James,	Kentucky,	Enteric Fever.

Names.	*Residence.*	*Subject of Thesis.*
Setliff, Abram,	Tennessee,	Croup.
Sharp, W. B. A.	Tennessee,	Dyspepsia.
Sheffield, Jason B.	Tennessee,	Asiatic Cholera.
Smith, Curran C.	Kentucky,	Acute Pleuritis.
Spitler, Adam,	Virginia,	Pneumonia.
Taylor, R. W. N.	Kentucky,	Scarlatina.
Thornton Francis,	Kentucky,	Inflammation of the Neck of the Uterus.
Trabue, Benjamin F.	Kentucky,	Structure and Functions of the Nervous System.
Trotter, John D.	Mississippi,	Acute Pneumonia.
Waggener, Thomas M.	Kentucky,	Epidemic Dysentery.
Wall, Matthew H.	Kentucky,	Sinapisms.
Wasson, Lawson M.	Tennessee,	Typhoid Fever.
Watts, Josiah T.	Mississippi,	Gonorrhea.
Whitaker, John D.	Tennessee,	Inflammation.
Williams, Elkanah,	Indiana,	The Mutual Influence of the Heart and Lungs.
Williams, James M.	Kentucky,	Cutaneous Hepatic Sympathy.
Wilson, James H.	Mississippi,	Tuberculosis.
Winter, Jacob D.	Kentucky,	Toxicology.
Woodson, Thomas M.	Tennessee,	Mercury.
Yancy, Augustin L.	Kentucky,	Typhoid Fever.
Young, John J.	Kentucky,	Aneurism.

The following gentlemen were examined in July, 1849. and were entitled to the degree of M. D. at that time, viz.

Herman S. Major,	Kentucky,	Chorea.
J. S. Metcalf,	Kentucky,	Acute Hepatitis.
George C. Pendleton,	Kentucky,	Dysmenorrhea.

The Honorary Degree of Doctor of Medicine was conferred upon Dr. Thomas Lipscomb of Shelbyville, Tennessee.

Total, 113.

J. COBB, Dean.

March 9th, 1850.

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WESTERN JOURNAL

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MEDICINE AND SURGERY.

JANUARY, 1850.

ART. I.—*A Brief Account of the Epidemic Dysentery, as it occurred in Frankfort and Franklin county, Ky., during the summer and fall of* 1849. By WILLIAM C. SNEED, M. D., of Frankfort, Ky.

The present state of medicine may be viewed, in all its departments, as the result of observation and the record of facts as they have been contributed by the members of the profession in various countries and at various times.

The incentives which have influenced men, in the busy scenes of public life, have had their weight in prompting them to the contribution of these facts. Zeal, in the cultivation of science, and the illustration of truth, has probably as much influence in prompting to enterprize and stimulating the labors of the medical profession, as that of any other; and possibly we would not exceed the limits of truth and justice, were we to say, that no other human

pursuit has been cultivated from motives of purer devotion to the cause of science, nor any sustained by a diligence more laudable, nor directed to more useful ends.—Yet it would be uncandid, and, as we consider, unnecessary, to exclude, altogether, the natural springs of human action from all participation in the motives which have led to the accumulation and display of the various and valuable stores of our profession—its science and resources.

It could not be in the power of any one man, no matter what his opportunities, nor however enlarged his understanding, nor extensive the field of his observation and enquiries, to construct and perfect a scheme of medical science equal to the comprehensive operation which that science effects. To give it scope, efficiency, and, above all, stability, has required, and, for a time to come, will require the concurrent efforts of numerous cultivators, the record of their full investigations, the full interchange of opinions, and the multiplication of facts calculated to fix the principles of the science and regulate their application. Hence the great importance of *keeping* constantly *open* depositories for the record of observations, and even speculations in medicine. In this age, science is not stationary, is defined by no positive bounds, nor restricted within any known limits, and therefore it is the privilege, and the duty of each one to contribute all in his power to aid in its extension and improvement. Thus the labors of many devoted to one end may, like light shining from various points, serve to illuminate the objects of pursuit and enquiry.

Viewed in this light, the contributions of all who aim to promote and advance the important interests of the science, acquire a relative degree of value. And even those who do not hope to instruct the informed, nor aspire to the distinction of giving a new direction to professional opinion, may yet presume to record such facts as come

under their own observations, and modestly present to the profession what has seemed to themselves either of useful application, or curious and interesting.

In this class of contributors the writer is content to take his station, emulous of no greater credit or higher commendation, than to merit the privilege of acting in concert with those of his professional brethren who are endeavoring to improve, adorn, and elevate a profession which contemplates and has accomplished so much for the good of mankind.

The preceding considerations suggest themselves as the proper explanation of the motives which prompt me to offer to the profession the following remarks upon the epidemic that occurred in our town and county during the past summer and fall.

As early as the first of May, cases of diarrhea began to occur and had all the appearance of a mild form of cholera. I was frequently applied to for medical advice in such cases, and invariably relieved them by the use of small doses of calomel and opium repeated in quantity according to the violence of the attacks. The great majority of them yielded to this course of treatment within from one to four days. I found, however, that the patient always did better under the use of these remedies, by remaining in bed, and abstaining from the use of cold drinks and solid food. One of the first injunctions which I placed upon my patients was to go to bed and remain there as quiet as possible, until the bowels were entirely relieved from pain or uneasiness, and until good bilious operations were obtained. There was a peculiar symptom, attending all these cases, which I have never met with in diarrhea before. It was a peculiar and indescribable uneasiness about the bowels. The patients would express themselves as feeling as though the whole of the abdominal viscera had been torn loose and were floating in the cavity. When they would turn over in bed, or get

up, it would seem as though the peritoneal sack was full of water and the viscera were floating loose in it. There was rarely ever any nausea or vomiting, but on the contrary the appetite was good and the amount of thirst not very great. In all these cases the tongue was very white, flabby, and moist. Fever rarely or never attended, and the patients would express themselves as feeling well except the loose and peculiar sensation of the bowels. The strength of the system became speedily affected, and in a few hours such a degree of prostration followed that it was with difficulty that the patient could walk about.

These cases continued to occur until about the first of June, when they assumed a rather more grave form.—The weather about this time was warm and wet—showers falling almost daily, and the heat of the sun during the day very oppressive. During the month of June, diarrhea continued to prevail, but yielded to the usual mode of treatment—not, however, so readily as previously. A few very violent cases of cholera morbus occurred in the town and county during the month, brought on mainly by the improper use of fruit and vegetables. No death occurred, however, within my knowledge, and the course of treatment mentioned previously was pursued. Early in the month of July, a few *indigenous* cases of cholera appeared in the town and proved fatal in one or two instances. The weather still continued wet and warm, and in every way favorable to the production of such cases. Up to this time no well marked case of dysentery or flux had occurred, but cases of diarrhea increased in numbers and violence, and the cases had to be met very promptly to prevent them from running into cholera of the worst form.

The first well marked cases of flux which came under my notice occurred about the third of July; one of them was a delicate female who had been delivered a few days previously and had imprudently indulged in the use of vegetables. Her case was one of great violence, and for a

while put all remedies at defiance. She, however, contrary to my expectations, recovered, after having gone through a protracted course of treatment. The next case was that of one of our most useful and respectable citizens. He had been superintendent of our gas and water works, and had worked a great deal in lead, which I incline to think, had, to some extent, deranged his system and made him much more susceptible to the epidemic influence than he otherwise would have been. His case was one of great violence, and proved fatal after *over* sixty days of great suffering. I think he would have recovered, but for an accidental hemorrhage of the bowels which occurred after he had apparently nearly recovered from the epidemic.

From this time [3d of July] the epidemic increased in violence, and by the middle of the month was in almost every part of the town and county.

The disease now under consideration commenced, in many cases, with much the appearance of the diarrhea which preceded it; frequent and unseasonable calls to stool, attended with straining and tenesmus. The evacuations were generally copious at first, of a fluid character, and in some cases of a peculiar fetid smell; some times containing streaks of blood, and at other times blood in small quantities, unmixed with fecal matter.—The pulse in the early stage was seldom altered; the heat of the skin not much increased, and the tongue in many cases but little changed in its appearance. There was, in some cases, great prostration of strength and depression of spirits, the appetite indifferent and the thirst very urgent. After this train of symptoms had prevailed for a few days, there would be a fixed pain in the hypogastrium, more or less acute; the pain extending to the iliac regions, and more or less urgent along the whole course of the colon, with fullness, tension, and tenderness upon pressure. The evacuations, as these symptoms increas-

ed, become more frequent and less copious, consisting of blood and mucus, or bloody serum, resembling water in which fresh beef had been washed. Tenesmus, with suppression of urine, now would become distressing symptoms, and the patient cared for nothing but cold drinks, with which it was impossible to satisfy his desires. The tongue became white and furred, with a tremulous motion when protruded from the mouth. The skin during the violent symptoms now existing, would be hot and dry, or covered with a profuse warm perspiration: the latter was invariably a favorable symptom. The pulse varied according to the violence of the foregoing symptoms. In some it would assume a febrile quickness, without any other distinct feature; in others it would be full, with a peculiar jerk or rythm, which indicated more violence in the attack than the former alteration. In the fatal cases the symptoms would increase in violence from day to day until death closed the scene, which usually occurred in the course of from twelve to twenty days. I have known some patients to have from twenty to forty evacuations in the twenty-four hours, which, in quantity, would be almost incredible, and of a character differing from anything of the kind I ever saw.

The period of convalescence varied very greatly; some cases recovering in a very few days, while others were protracted for weeks, and some for months. When the disease passed into the chronic form, it differed but little, if any, from ordinary sporadic dysentery in the same stage. Ulceration of the large bowels, I have no doubt, often occurred, and was the main cause of the difficulty in conducting such cases to a favorable termination. I had only one opportunity of making an inspection of the lesion produced by the disease, and that afforded but little satisfaction as to the precise condition of the parts involved. The subject was a convict, who died of a relapse, after having apparently recovered from an ordina-

ry attack. Inspection after death showed thickening and chronic ulceration of the lower bowel up to the sygmoid flexure; above that, to the cecum, there was acute inflammation of a mild grade, and in the small bowel, for a space of six or eight feet, complete hyperemia.—The mucous coat of the bowels was as red as scarlet, but neither softened nor ulcerated. His symptoms, during his last illness, were those of congestion, and I suppose that this condition of the small bowel was the cause of his death. On his return to the hospital, he had but little of the dysenteric character in his case. His skin was cold and moist; his pulse feeble and soft; countenance restless and cadaveric; extremities cold; no pain or tenderness about the bowels, and no tympanitis. Counter-irritants, diffusible and permanent stimulants, mercurials, &c., were all successively tried, but failed to afford relief, and he succumbed in a few days.

Several other cases of nearly the same character as the foregoing came under my notice, all of which proved fatal. I have no doubt but the scalpel would have revealed the same condition of the parts as above detailed.

The proximate cause of the disease I supposed to be the same—modified in some way—which produced the diarrhea and cholera which preceded and accompanied it. The state of the atmosphere differed in no appreciable manner from other wet and warm seasons. There was nothing either in the town or county, or about any of the locations where it prevailed to the greatest extent, to which its prevalence could be attributed. Those persons who were the most prudent in their diet were no more exempt from attacks than the most imprudent. It attacked persons of all ages, of all temperaments, and all conditions of life, with equal violence. Two functions seemed to be invariably involved, viz: the skin and the liver. My own views in relation to the pathology of the disease may be briefly stated *to be portal congestion, with a pecu-*

liar tendency to inflammation of the lower or large bowel. How or what way this derangement is produced, I know not, nor do I think it worth the trouble to advance any speculations on the subject in this paper.

A brief detail of the principal medical applications used in the treatment of this disease must close what I have to say upon the subject. Under their proper heads I have attempted to detail my experience in the use of the remedies which I resorted to.

Bloodletting.—This remedy was never tested by me, for the simple reason that I did not sufficiently understand the nature of the epidemic to risk a remedy of such potency. After a careful review of my cases, I am still unable to say what effect would probably have resulted from its use. I am satisfied, however, that in many cases it would have been wholly inadmissible, while in many others, it would have been of doubtful utility.

Mercurials.—The combination of calomel and opium having produced such marked and happy effects in the treatment of the diarrhea which preceded the flux, it was perfectly natural that we should resort to its use in the first cases of flux that occurred. There is, and ever has been (according to the books), a great variety of opinion in regard to the use of these medicines in this disease. According to the writers on tropical dysentery, calomel, in combination with opium, conjoined with diaphoretics, is the sheet anchor in the treatment of this disease. In warm climates, and where there is great hepatic derangement, there can be no question of the great efficiency of calomel, but in this and milder climates it is not so much relied on. I am not fully prepared to give an opinion on its virtues now, after having had such an extensive opportunity of testing it. In sporadic dysentery I have found it, with opium, equal to any other remedy. In some of the cases that came under my care, it acted like a charm, and when carried to ptyalism, produced a speedy and permanent cure.

In the penitentiary in this place there occurred, during the summer, about seventy cases of this disease, all of which recovered but one, and that was a relapsed and neglected case—and they were treated entirely with calomel, alone or compounded with opium. Here the ordinary treatment of sporadic dysentery succeeded to admiration—the patients recovering rapidly and permanently, though the attacks in many cases were violent and alarming.

In private practice the same course of treatment failed to meet my expectations. I do not recollect of more than eight or ten patients who were benefitted by being subjected to the constitutional effects of this remedy. In a few it acted well, but in others it seemed rather to provoke than mitigate the disease.

Opium.—This remedy has been so highly applauded by medical writers on dysentery, that it would be considered presumption to say aught against its use, at this time. I suppose it is the abuse of the article which has given rise to a prejudice against its use in my own and in the minds of others. I have tried it repeatedly, as recommended by Christison and others, and have invariably been disappointed in its effects. In my first use of it, during the prevalence of the epidemic just past, I am satisfied that it was the cause of incalculable injuries to my patients. It failed to give relief to the tenesmus and pain, and I believe seriously impeded the spontaneous efforts of the system to throw off the disease. When combined with ipecac and calomel, in small doses, its effects were beneficial, and particularly so when I gave it in small doses, frequently repeated, after the bowels had been well evacuated. The form which I preferred was that of Dover's powder and sulphate of morphine, with pulv. ipecac. The acidulated tincture, with acetate of lead, was used in cases unattended by fever or pain, and had often a good effect in lessening the frequency of the operations,

Injections.—From the great importance attached to this remedy by medical writers, I was educated to believe them of great utility in this disease. Having found them either inefficient or hurtful, I soon discontinued their use, except in some peculiar cases. With most patients, the introduction of the pipe more than counterbalanced the soothing effect of the injection. I have rarely seen the injection retained more than a few minutes, no matter how small in volume it might be—and when passed off, was attended invariably by tenesmus and straining. At the suggestion of Dr. Drake, I used in the latter part of the season injections composed of cold ice-water, with sugar of lead, and found that they afforded more relief than any other form I had used. As a substitute, I used in some cases opium suppositories with benefit, but I found more good to result from the use of warm fomentations to the parts, or bladders filled with hot water applied to the hypogastric region. The soothing effects produced by these applications were soon acknowledged by the patients, and often followed by sweet repose of considerable duration.

Mustard plasters to the sacrum, followed by warm poultices had a very soothing effect in some cases.

Blisters,—I used blisters to the abdomen in a few cases but found little or no good to result from them. They were objectionable on several accounts, besides the pain which they produced when the patient would have to use the chamber vessel, they were often very annoying in consequence of the stranguary caused by the absorption of the essential oil. Micturition was almost invariably difficult and painful in consequence of the irritation of the rectum, extending to the neck of the bladder, and when this part was subjected to any additional irritation, the pain was almost insupportable. Pustulation with ung. tart. ant. or croton oil over the hypogastric region seemed to be beneficial in some chronic cases.

Local bloodletting, by the use of cups and leeches, seemed to have little or no influence in checking the disease, and was but seldom used.

The plan of treatment which proved most successful was about as follows: when called to a case of well marked flux, I first gave a dose composed of calomel, ipecac and rhubarb, in quantity proportioned to the age and constitution of the patient. After this had acted well upon the bowels, emptying them of all crudities and feculent accumulations, I gave an anodyne, composed of pulv. Doveri or morphine and pulv. ipecac. This I would repeat two or three times at intervals of four or six hours, and at the expiration of the first twenty-four or thirty hours, I would give another purgative dose of the same composition as the first, and repeat in six hours unless free bilious discharges were produced. When the bowels were well emptied and the liver sufficiently acted upon, I would repeat the anodyne until tenesmus, tormina, and all other unpleasant symptoms were either suspended or mitigated. I found that the pulv. ipecac, combined with the purgative and sedative in large quantities, would be well borne, and had a powerful effect in determining to the surface, which was always a desirable object to be obtained. I may here remark that no case of mine proved fatal, where the skin could be sufficiently acted upon. I was always prepared to give a favorable prognosis when this function could be properly excited. If the discharges still persisted, and the tenesmus and tormina continued to be distressing, I gave, with decided good effects, "Hope's Mixture." In my first use of this remedy, I was disappointed, but by increasing the quantity of the opium, and adding about one-fifth or sixth of wine of ipecac. to the mixture, I found the most decided good effects to result from its use. To adult patients I gave a table-spoonful every hour, until its good effects were produced. With some it would be extremely grateful, qui-

eting the stomach, relieving the pain and tenesmus in the large bowel, and acting upon the skin in a most happy manner. Its effect upon the liver in many cases was well marked, but in most cases its principle action was to the skin. In the latter stages of an attack, I occasionally gave astringents, both by the mouth and by enemas, but I placed but little reliance on their use. Where there was great prostration, with general debility, in the latter stages, tonics were used with good effect—the best of which were quinine, combined with pulv. Doveri or morphine, and good Port or Madeira wine. I used, in some cases, salts and laudanum combined, after the plan recommended in the books, but I found no good results from their use, which were not more speedily obtained by the plan above detailed. I might give additional interest to this paper by detailing at length some of the most interesting cases that c me under my treatment, but as my object is to be brief, I must decline further details.

Relapses were not frequent, but always dangerous, and oftener occurred from imprudence in eating than from all other causes. It was found best in all cases to keep the patient, from the beginning of his attack to its close on mild articles of food, and not permit the use of cold drinks of any kind. Ice water and every other cold drink had a decided tendency to aggravate the disease, without affording the patient the least comfort, even for the moment while partaking of them.

I have, in this paper, aimed at nothing but a faithful detail of the facts and observations which presented themselves during the epidemic; and submit them, with the request that you make any use of them which may seem to you proper, or best for the good of the profession.

Frankfort, December 1, 1849.

ART. II.—*Cases of Purpura.* By B. F. WENDEL, M. D., one of the Physicians to Emigrants' Hospital, Ward's Island, N. Y.

Michael Mushaul, æt. nine years, from Ireland, came into my ward on the 21st of October.

At that time he was suffering from a slight attack of dysentery, which he had had four days—his discharges being nearly pure blood. He was treated with Dover's powder and minute doses of calomel during the two following days, during which the discharges assumed a more healthy character—after which Dover's powder alone was administered.

By the 29th, he was out of bed, and playing with the other boys.

He seemed improving in health, until Nov. 4th, on the morning of which I noticed him looking pale, and seemingly disinclined to eat or stir about. In a few hours he was very pale, with a feeble pulse and cool skin, and he was immediately ordered carbonate of ammonia.

Nov. 5. He is deathly pale; his pulse still weaker, despite the ammonia, and skin very cool; and just before twelve o'clock, A. M., he began to purge and vomit a dark colored semi-coagulated blood. Ammonia was continued, and the vomiting and purging relieved by small doses of turpentine.

On the 6th and 7th, he was decidedly better; had some appetite; paid attention to what was going on around him, and said he was better; he purged and vomited occasionally, but this was checked by lead and opium.

On the evening of the 7th, he was decidedly improved.

On the 8th, he was paler and weaker than at any time previous; pulse frequent and gaseous, and the skin very cool. Carb. ammonia, milk punch and beef tea were given freely. At 11, A. M., he passed a considerable quantity of bloody urine, which he continued to do until

his death, but at this time the vomiting and purging of blood was small.

There was no improvement in him during the day, and in the course of the night hemorrhagic spots showed themselves more or less over the whole body, and from the time of their appearance there was a complete cessation of either vomiting or purging, though, as before remarked, bloody urine continued to be passed.

On the morning of the 9th, he was perfectly sensible, answering questions promptly and calling for what he wished; he had, however, an inexpressive look; took but little notice of what was doing; his breathing was natural, skin quite cool, pupils slightly dilated and pulse extremely weak. He was then ordered three drops of nitro-muriatic acid every four hours, carb. ammonia and the most nourishing diet to be continued, which treatment was adhered to to the end of his life.

He continued to grow worse, and on the 13th, the day of his death, he complained of pain in the abdomen, which was tender to the touch, and tossed his head from side to side.

The breathing continued natural; the pupils slightly dilated, and pulse frequent and without force.

At 11 o'clock, A. M. he died.

For an account of the pathological appearances on dissection of this and the following case I am indebted to my friend and co-laborer, Dr. Lidell, who, with Dr. Tellkampf, physician in chief of this hospital, and Mr. Ely, was present at both examinations.

Autopsy, twenty-eight hours after death.—Body pale; considerably emaciated, with hemorrhagic spots ranging in size from a pin's head to a split pea (few larger), scattered over its surface, most abundant about the ankles and legs. Each spot has a well defined margin, and some form perfect rings, with a hair follicle in the centre, unaffected by discoloration. On being cut through, these

spots are found to be produced by blood effused into the skin and cellular tissue beneath, sometimes to a considerable depth. Brain contains less blood than usual, which is thin and pale; small quantity of bloody serum in the lateral ventricles. Thorax—Pleura adherent on both sides; about twelve ounces of bloody serum were present in the plural cavity on each side. Lungs emphysematous and containing less blood than usual; contain also numerous dark colored spots of effused blood, about the size of a pea scattered through their substance. A mass of tuberculous deposit, larger than a hickory nut, lies near the base of the upper lobe of the left lung, just beneath the pleura. Fibrin has been effused around it, which has become organized, contracted, and presents the appearance of a genuine cicatrix, far advanced in the process of formation; the tuberculous mass is softening in its interior. No other tubercles present. A few spots of blood were effused into the sub-mucous tissue of the trachea and larynx. Muscular tissue of the heart much paler than natural, (almost as pale as after maceration); hemorrhagic spots scattered throughout its substance, most abundant in the left auricles; spots of effusion on the mitral valve; heart clots very small and the blood contained in the heart thin and pale. Liver very pale.—Gall-bladder half filled with yellowish bile. Spleen small, flattened and softened. A few hemorrhagic spots under parietal peritoneum on the right side. Kidneys—Lining membrane of the pelvis of each kidney completely blackened by effused blood; bloody fluid present in the cavity of the pelvis of each kidney. The vascular and tubular structure of both organs paler than usual. Stomach—Splenic third, embracing cardial orifice, blue-black in color, coated with viscid mucus; mucous membrane thickened and softened; middle third lying mainly on the greater curvature, uniformly dark brown in color, with bright red spots as large as a pin head scattered over its sur-

face; mucous membrane thickened; pyloric third healthy. Each of these thirds is separated from the other by a distinct line of demarkation. Intestines contain a considerable quantity of blackish semifluid matter. Rectum and colon, quite up to the ileo-cecal valve, blue black in color (gangrene not present), with the ulcerations and thickenings of old dysentery and small recent dysenteric ulcerations. Large intestines appear exactly as if they had been macerated in water. Small intestines—Peyer's plates unusually distinct; small, dark colored spots scattered through the small intestines apparently analagous to the purpuric spots on the external surface of the body. Otherwise healthy. The blood throughout the body is uniformly more thin, fluid and pale than usual. Other organs healthy.

The following case, with accompanying remarks, was kindly furnished me, by Dr. Lidell, before alluded to, one of the assistant physicians of Bellevue Hospital, New York.

Catherine ———, spinster, aged twenty-two, born in New York, admitted to Bellevue Hospital, Friday, September 29th, at 10½, A. M.

Says that her health has usually been good, but last winter had a severe attack of rheumatism. Has been, for some time past, given up to licentious and intemperate habits.

On the evening of Monday, the 25th, had a severe chill, with intense pain in the small of the back and head, heat, thirst and restlessness. These febrile symptoms continued till the night previous to admission, when she had profuse nasal hemorrhage. On the morning of the 29th, (day of admission,) at about seven o'clock, *a breaking out*, as the patient called it, suddenly appeared, scattered over the whole surface of the body. This was attended by great and immediate relief from pain.

Sept. 29th, 11, A. M.—Patient has been in hospital

about one half hour. Presents a most remarkable appearance. Her whole body exhibits patches of purpuric spots almost confluent, varying in size from the palm of hand to a half dime, most abundant about face, neck and chest; a bright red eruption, disappearing under pressure, occupies the spaces between purpuric patches, on face, breast, arms, legs, etc.; conjunctiva appear as if completely ecchymosed; eyes watery, with some defluxion from nostrils; skin dry and hot; pulse about ninety and quick; has thirst and restlessness; tongue moist and lightly coated with a whitish fur; roof of mouth covered with a whitish exudation; complains of sore throat, with considerable dysphagia; slight dyspnea; bowels had been open during the previous night. Ordered acidulated drinks to be taken freely, rest and suitable diet.

Sept. 29, 5, P. M.—Purpuric patches somewhat more confluent, particularly on face; skin hotter; pulse fuller; has sanious sputa; had, during afternoon, slight epistaxis; dyspnea increased. Same treatment continued, with addition of tepid sponging.

Sept. 30th, 9, A. M.—Patient had considerable epistaxis during night; passed two or three ounces of blood in stool; slept very little; pulse one hundred and twenty; respirations sixty; sanious sputa; complains of increased soreness of throat, and consequent increased difficulty in swallowing; tongue moist and covered with brownish fur; three or four big drops of sanious exudation, closely resembling "bloody sweat," stand on forehead and right side of nose; erythematous blush has faded somewhat.

Sept. 30th, 1, P. M.—Pulse and respiration about the same as at last visit; has low delirium, from which she is easily roused; increase of bloody sweat; purpuric patches continue to become more confluent. Ordered sulph. acid aromat. gtt. x, every second hour.

Sept. 30th, 7, P. M.—Pulse one hundred and thirty-five, small and feeble; respirations more frequent, short and

anxious; delirium still of low, muttering character, from which she can now scarcely be roused; bowels have been open three or four times since morning; stools small, blackish, and very fetid; considerable bloody sweat stands on forehead and cheeks; power of deglutition nearly gone; at no time since her admission has she passed blood in urine; continued to grow worse, and died about ten the same evening.

Autopsy, twelve hours after death.—Embonpoint preserved. Whole surface of body blackened with confluent purpuric patches. Head—somewhat congested, otherwise natural. Respiratory organs—larynx and trachea thickly spotted with blood effused under mucous coat.—Lungs—middle third, and part of lower third of each lung, partially solidified by coagulated blood effused into the cellular tissue. These parts still contained some air. Rest of each lung much congested, and giving out bloody fluid on pressure. Heart—natural. Esophagus and stomach—completely blackened by confluent spots of effused blood into submucous tissue. These spots became less abundant in the small intestine, but were again found in great numbers in the large intestine, quite down to anus. Liver—nearly double the normal size, and exhibited the fatty degeneration. Kidneys—right, somewhat enlarged, with commencing fatty degeneration; a considerable effusion of blood into cellular tissue investing the organ, and also one large and numerous small spots under lining membrane of pelvis. Left kidney, in structure healthy, but presenting similar spots of effusion. Spleen—softened. Other organs healthy.

Bellevue Hospital, Oct. 26, 1848.

"*Remarks.*—The foregoing is a very interesting example of one of the most obscure diseases to which man is liable. The almost universal hemorrhagic condition, and its rapidly fatal result, connected with the habits of the patient, and the postmortem appearances, render it one

well worthy of record. The real pathology of purpura is involved in mystery; some regarding it as a mere variety of scurvy, others as a distinct disease, and others again as only a symptom or a consequence of other diseases which had impaired the constitution of the patient. This latter opinion is undoubtedly nearest the truth; the peculiar hemorrhagic condition being the result of an altered condition of the blood. Hence the treatment must be guided by the previous condition of the system in each individual case. But we have never noticed a case in which the purpuric spots were so extensive, both in the cutaneous and mucous surfaces, and which proved so rapidly fatal as the one detailed above."

Patrick Gill, from Ireland, an unhealthy looking boy, aged six years, of whose previous history nothing is known, I saw in the nursery on Nov. 7th, with the signs of acute thoracic inflammation—pungent heat of skin, flushed face, frequent and rather incompressible pulse, dyspnea, dilatation of the nostrils at each inspiration, pain in chest, &c. He was immediately sent to hospital, and put on nitrate of potassa and ipecac. in minute doses frequently repeated. In the evening he was no better. Same treatment continued.

Nov. 8th. Finding no abatement of the symptoms, a vein in the arm was opened, but no blood escaped at the time, and it was left unclosed until evening, during which time he lost a few ounces of blood. The nit. potassa and ipecac were continued.

In the evening he was decidedly better.

By the 10th, nothing remained but a slight bronchitis.

At my first visit, he looked rather drowsy, but showed no other symptoms of any affection of the nervous centers.

Nov. 12th. He looks quite drowsy; sleeps with his eyes half open; pupils slightly dilated; notices nothing; bawls out in sleep; respiration natural and pulse frequent, but

of no volume. He would cry and make resistance on attempting to move him. These symptoms became more developed, so that he made obstinate resistance when even touched or moved; would not put out his tongue, and was calling out in his sleep "every hour." The alvine discharges were natural, as also the urine. He did not toss about in bed, nor was there from first to last any signs of convulsive action. I had a blister put to the back of his neck, and gave him calomel.

Nov. 14th. Frothy blood filled his mouth so that the tongue was not seen. Skin cool; pulse diminished in force; pupils slightly dilated; breathing slow and laborious. On the evening of this day, purpuric spots appeared on him, and at night he died.

Autopsy, fifteen hours after death.—Body emaciated, of a yellowish color, somewhat tinged with green. A few purpuric spots on legs and left hip, of considerable size and without a well defined margin. When cut into, blood is found effused in the skin and cellular tissue beneath, to a considerable depth. Right pupil a little more dilated than the left. Brain paler than usual; blood contained in its vessels is thin and watery. On the upper surface of the middle lobe of the right hemisphere is a flattened recent clot of blood, which, when gathered into a mass, is as large as a filbert. At the corresponding point on the left hemisphere is another clot much smaller in size. Also on the posterior surface of the posterior of the right hemisphere, is a small, flat and recent clot. A sanguineous effusion at base of brain. The clots are all lying in the cavity of the arachnoid. No other morbid appearances.

Lungs emphysematous, contain rather more blood than usual, which is thin and watery. Brown spots, as large as a pea, produced by blood effused into the cellular and vesicular structure scattered through the substance of the lungs. Bloody fluid, mixed with air, given out under

pressure. Bronchials inflamed. A small quantity of bloody serum in the cavity of the pleura on each side.

Pericardium contains a small quantity of bloody serum.

Heart—Muscular tissue paler than natural; a few hemorrhagic spots in the valves and fleshy columns of the left ventricle. Heart clots very small.

Blood throughout the body thinner and paler than usual.

Liver paler than natural, though it contains a normal quantity of blood. Gall bladder filled with green bile.

Spleen enlarged, softened and full of blood, presenting internally a dark brown rotten appearance.

Kidneys paler than usual; right contains rather more than a normal quantity of blood, thin and pale. Otherwise healthy.

Stomach has a few punctiform hemorrhagic spots scattered over fundus and along greater curvature; pyloric portion congested. Esophagus intensely inflamed and congested to the extent of two or three inches above the cardiac orifice of stomach. Large intestine is blue-black in color, but is not gangrenous. Peyer's plates are unusually distinct. The mucous membrane of the stomach and intestines is softened throughout. At the termination of the upper third of the ileum there is an intussusception (invagination) from above downwards to the extent of one and a half inches. No inflammation of the parts implicated—simple congestion. Pancreas enlarged. Other organs healthy.

There is another case of purpura hemorrhagica in my ward, occurring in the person of a boy about five years old. The spots are but few in number, and are on the lower part of the abdomen and thighs. They have a well defined margin, and showed themselves after he had labored under a slight diarrhea, for which he was admitted, of three days continuance. He is fast recovering, under the antiscorbutic treatment of vinegar with scraped Irish potatoes.

ART. III.—*A Brief Sketch of the Life, Character, and Writings of William Charles Wells, M. D., F. R. S., &c., &c.* An Address delivered before the Louisville Medical Society, December 7th, 1849. By ELISHA BARTLETT, M. D., Professor of the Theory and Practice of Medicine, in the University of Louisville, Ky.

In the Introductory Address to the Medical class, which I had the pleasure of making, a few weeks ago, I took occasion to speak of the pleasures and the benefits which the practical physician might derive, from the cultivation of studies and tastes not immediately and exclusively connected with his own occupation. I expressed the opinion, that a reasonable devotion to these studies, and a reasonable indulgence in these tastes, would not only improve the character, and augment the sum of his happiness, by calling into exercise the finest and noblest powers of his mind; but that he might, also, thereby be rendered a more successful and accomplished practitioner of his art; that he might thus be made, not only a wiser and a better man, but a more skilful physician. Amongst the studies which I then particularly enumerated, and nearest allied of them all, to his practical duties, was the history and the literature of his own science and art; and so much, especially, of this history and literature as are contained in the written lives of the most distinguished cultivators of medical science. I do not know any more agreeable study than that of biography; and although the annals of our own science, when compared with those of politics, general literature, belles-letters, and the arts, cannot be said to be rich in this species of composition, they are still sufficiently so to furnish a fertile source of instruction and delight. I propose to occupy the time which you have assigned to me, on the present occasion, with a short history of the life and the labors, and with such a delineation and estimate of the character, as the study of this life and these labors will enable me to make,

of an individual, less known, I am sure, than he deserves to be, especially to American physicians :—I mean William Charles Wells.

And I take up this subject, not as a piece of irksome drudgery, but as a labor of love. I had just finished reading, when I prepared this sketch, for the first time, the volume which contains the record of his life and the results of his labors; and my mind had been so interested and my feelings so warmed by its perusal, that the business before me became a pleasure, and not a task. I cannot doubt that I shall awaken in your bosoms emotions and sentiments corresponding in some degree to those which have been kindled in mine.

Dr. Wells was an American. He was born in Charleston, South Carolina, in May, 1757. His parents were both natives of Scotland. His father, who was a good general scholar, having been unsuccessful in some mercantile scheme, in Charleston, set up the business of a bookseller and bookbinder; he also printed a newspaper. He was a zealous and uncompromising tory; and he took great pains, and this with entire success, to educate his son William in the same political faith.

The son was sent to a grammar-school, in Dumfries, Scotland, before he was eleven years old, where he remained for nearly two years and a half. From Dumfries he was sent to Edinburgh, in the autumn of 1770, where he attended several of the lower classes of the University, and where he also learned drawing. He returned to his native town in 1771, and soon afterwards commenced the study of medicine, with Dr. Alexander Garden, the principal physician of Charleston; with whom he remained, a diligent student, for more than three years. The revolutionary contest between the American colonies and Great Britain had then fairly commenced; young Wells's father had already been obliged, on account of his political principles, to leave the country; and the son, himself,

for similar reasons, soon after followed him. He arrived in England in the autumn of 1775; and, in the beginning of the following winter, commenced his regular medical studies at Edinburgh. In the autumn of 1778, he visited London, attended a course of Dr. William Hunter's lectures, and took instructions in practical anatomy. He was now appointed surgeon to a Scotch regiment in the service of Holland. He embarked for the Hague to take possession of his post early in 1779; but, soon after, becoming involved in some personal difficulties with the colonel of his regiment, he resigned his commission, and was discharged from the service. Immediately afterwards, in the beginning of 1780, he went to Leyden, where he spent three months, mostly occupied in the composition of his Thesis. In the autumn of the same year, he received at Edinburgh his degree of Doctor in Medicine.

In consequence of the deranged state of his father's concerns, in Charleston, growing out of the revolutionary war, he again visited this country, in the beginning of the year 1781. Charleston was at this time in the possession of the king's troops; but in December, 1782, in consequence of the evacuation of the garrison, Dr. Wells removed to St. Augustine, in East Florida, taking with him a printing press and types. He there commenced a weekly newspaper; and became, also, captain to a body of volunteers, raised for the purpose of resisting some threatened attacks of the Americans. The preliminaries of peace between the two countries having been signed, Dr. Wells returned to Charleston; and immediately on his arrival, was arrested on a private suit, originating in a transaction of his brother's, and committed to prison, where he remained upwards of three months. As soon as he succeeded in procuring his release, he again left for St. Augustine, and very narrowly escaped death by the wreck of his vessel, on the passage thither. In the sum-

mer of 1784, he returned to London, preparatory to his settlement in that city; where, after spending three months, in the spring of 1785, in Paris, in the words of his own sketch of his life, he had the name of Dr. Wells affixed upon the door of a lodging which he had hired. His father's property had now almost entirely disappeared, and he was obliged to borrow £130 from one of his friends, to enable him to commence his career, as a London physician. This career proved anything but prosperous. For several years he hardly took a single fee—and it was ten years, before his income from every source, including an annual gratuity of £50 from the Finsbury Dispensary, to which he had been appointed one of the physicians, reached the sum of £250 per annum; and during this period he had been obliged to increase his debt to about £600. In 1795, his professional receipts became equal to his moderate expenditures, and in the next five years he succeeded in paying off a small portion of his debt. From 1801 to 1812, his income fluctuated between £235 and £455; and, from regular fees alone it never reached £600. He finally paid the whole amount of his debt; and when he was obliged, by sickness, to relinquish his practice, he had, in his desk, for he never kept a banker, nor invested any money in the funds, about £350. This, with his books, his little plate and furniture, and a gold Rumford medal, made up the sum of his worldly fortune.

In 1800, he was seized with a slight fit of apoplexy, from the effects of which he never fully recovered.—About the year 1812, he began to suffer with symptoms of hydrothorax; and these continued, with some fluctuations in their degree of severity, but with gradually increasing intensity until the 18th of September, 1817, when he expired.

Such is a rapid enumeration of the leading events in the external life of Dr. Wells. There is very little about

them either brilliant or imposing, and in order to understand at all the importance and the value of his life, we must turn to the study of his works.

In 1799, Dr. Wells addressed a letter to Lord Kenyon, in relation to certain alleged abuses existing in the official conduct of the Fellows of the Royal College of Physicians in London; and in the organization and by-laws of the college. This letter occupies nearly one hundred and forty pages of the edition of Dr. Wells's works, from which most of the materials for this sketch are derived; it is written with very great ability, and it exhibits in a clear and strong light, some of the most prominent elements in the character of Dr. Wells. For these reasons I intend to notice it, and some of the circumstances which called it forth somewhat fully. Apart from the connexion of these with this letter, and with the history of Dr. Wells, they can hardly fail, I think, to be of some interest to the American reader.

The Royal College of Physicians in London is of great antiquity, and it may certainly be regarded as one of the most distinguished associations of medical men that has ever existed. It was incorporated in 1518, during the reign of Henry viii, through the influence of the learned Linacre with Cardinal Wolsey. The Fellows of the College, beside being endowed with the usual privileges of close corporations, were empowered either by the terms of the original charter, or by successive additions to it, to examine into the qualifications of all physicians throughout England, except the graduates of Oxford and Cambridge; to search apothecaries' wares; to license lunatic houses; and in the exercise of their powers to commit offenders to any prison in London except the tower. No persons were allowed to practice medicine unless they were "*profound, sad, discreet, groundedly learned, and deeply studied in physic.*" The object of the founders of the college, and of the British legislature,

in its incorporation, was to elevate and improve the character of the medical profession, and to protect the public, as far as possible, against the practices of ignorant and incompetent physicians. It is very evident, however, that even during the early periods of its existence, either through the selfishness of its Fellows, or from that easy sophistry, which so often convinces men in power, that their own elevation and supremacy are necessary to the interests and the welfare of those who are subject to them, the college overstepped the principal objects of its institution, and converted the powers, which had been bestowed upon it solely for the public good, into means and instruments for advancing the private and selfish ends of its Fellows. One of its earliest acts, tending directly towards the accomplishing of these ends, was that of limiting the number of its Fellows; thus excluding the great body, even of its own licentiates, from the honors and emoluments, directly or indirectly growing out of the Fellowship of the college. An arbitrary and invidious distinction, unauthorized by either the objects or the terms of the charter, was thus established between the Fellows and the licentiates of the college. Amongst other assumptions of authority, the college arrogated to itself the power of establishing conditions of admission, amongst both its Fellows and its licentiates, of the most unjustifiable and arbitrary nature. One of these was, that no person should be admitted either as a Fellow or a licentiate, who had ever been an apothecary, or sold drugs, or who had ever practiced midwifery as a part of his profession. These usurpations gave rise, as might have been expected, to complaints and resistance, on the part of those who felt themselves aggrieved by these outrages upon their feelings and their rights; and we accordingly find, that almost the entire period of the existence of the college has been marked by heart-burnings, jealousies, quarrels, and law suits, between the different classes of its mem-

bers. Its Fellows were generally men of high professional rank, and extensive influence; some of them were almost always connected with the court; principles of justice, generosity, and right operated feebly upon the minds of men excited and influenced by strong and immediate personal interests; and it is not difficult to understand, why, in these contests, the college should have been the successful party. It appears, however, that notwithstanding these circumstances, the college did not always escape censure, even from the high courts, to which it appealed for the maintenance and protection of its assumed powers. In the year 1638, it was admonished by Chancellor Jeffries, on account of subverting the original intent of its charter.* The college was again censured in 1700, by Chancellor Somers; and in 1768, Lord Mansfield cautioned against narrowing its grounds of admission, as it seemed to have done, so that a Bœrhaave, if a resident in London, would have been excluded from its Fellowship.†

Amongst the distinguished persons who had quarrels and contests with the college, were Dr. Fothergill and Dr. William Hunter.

Although John Mason Good was a graduate of an English University, and aided Sir Henry Halford in the composition of his celebrated oration, he was refused admission to the full honors of the college, and placed among its *permissi*, because at one period of his life, he had been a general practitioner.

Catholics and dissenters were excluded from its Fellowship, the terms of admission requiring an assent to the church articles.

Sir Gilbert Blane constantly refused the proffered honor of a Fellowship.

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*London Lancet, vol. xii, p. 108. †Ibid.

Without going any farther into the history of the college, I will now return to the letter of Dr. Wells, and to the circumstances which led him to write it. In the year 1797, he mentioned to two of his friends, both of them Fellows of the society—Dr. David Pitcairn, and Dr. Matthew Baillie—his intention of applying to the college for an examination of his fitness to become a Fellow. On the 29th of September, a motion was accordingly made by Dr. Pitcairn, and seconded by Dr. Baillie, that Dr. Wells should be admitted to this examination. The motion was resisted, and finally defeated—there being only ten votes out of twenty-three in its favor. In the following year, Dr. Wells, with the assistance of his two friends, made another effort to obtain an examination, and was again defeated. This harsh treatment on the part of the college seems to have been the immediate occasion of Dr. Wells's letter. After entering somewhat fully into the history and merits of the case of Dr. Stanger, who had then recently been unsuccessful in an application for a like examination, Dr. Wells takes up the subject of his own grievances. As to his qualifications for a Fellowship, so far as knowledge was concerned, he says:—"Nine years previously to my being proposed by Dr. Pitcairn, I had undergone the trials of fitness, to which licentiates are subjected before admission to practice, and if I may venture to credit what was said by Sir George Baker, and the censors who examined me, I had passed through those trials with more than ordinary ease. In the interval, I had become a member of the Royal Society, the certificate of my fitness for which was signed by the late and present residents of the college, Sir George Baker, and Dr. Gisborne, and by four others of the present Fellows of that body. During the same interval I had endeavored to extend the boundaries of our knowledge in various parts of natural philosophy; and two of my attempts of this kind, certainly not the most considerable, had been

recorded in the printed transactions of the Royal Society. As I had thus demonstrated industry at least, in the cultivation of sciences collateral to medicine, it is not probable that I had been inattentive to the study of my own profession, since my peace of mind necessarily depended upon my understanding it. Nor had my opportunities of gaining experience in it been very small; for I had been eight years a physician to an extensive establishment for the relief of the sick poor, and I had also been physician, for some time, to another institution of the same kind, but still more considerable. From all these circumstances, I think it will readily be allowed by your Lordship, that it was not likely I had become less learned since passing the trials of a licentiate."*

In connexion with his moral fitness for the place which he desired, he thus speaks of the persons who made and seconded the proposal for his examination:—"One of these gentlemen must already be well known to your Lordship. I cannot, however, refrain from saying respecting him, that the son of the gallant Major John Pitcairn, who died the glorious and enviable death of a soldier fighting for his country, and the adopted son of the high-minded, upright, and generous Dr. William Pitcairn, must have every title to the strictest honor, which inheritance, education, and domestic example can bestow. But why do I speak of titles, after his countrymen had acknowledged his complete possession of that most invaluable property, and had in consequence, as well as from their high opinion of his learning and skill, placed him at the head of the profession of medicine, in the metropolis of Great Britain." Dr. Wells adds, in a note, this commentary:—"Two circumstances must concur to place a Physician at the head of his profession in London:—1.

*Works of Dr. Wells, p. 330.

Great employment, which alone is certainly not sufficient for that purpose, as it is often possessed by persons of no considerable ability. 2. Respect from other Physicians, indicated by their frequently requesting his aid in their practice. This can arise only from a high opinion of his honor and skill, of which qualities in a Physician, scarcely any but those of his own profession have either opportunities or capacity to judge rightly. Dr. Pitcairn, from the death of Dr. Warren to his own unfortunate illness, was indisputably the Physician in London, in whom these circumstances existed together in the greatest degree." "He who seconded the proposal," says Dr. Wells, "Dr. Matthew Baillie is more upon a level with myself, in regard both to age and length of residence in London. Somewhat therefore of the obscurity which involves almost every young Physician may have hitherto concealed him from your Lordship's notice. But that obscurity is fast dissipating, and he must soon, my Lord, very soon, appear to your view, with all the just proportions and accurate lineaments of a man of integrity, learning, and great professional skill."* This judgment was pronounced just at the period when the sun of Dr. Baillie's reputation was rising to its zenith; and one can hardly fail of being struck with the broad and touching contrast presented in the lives—from this time onwards—of these two men. Dr. Baillie may fairly enough be taken as the fittest type and representative of one of the noblest classes of men, that have ever blest and adorned humanity—the leading practitioners of medicine in Great Britain, during the last century. Skilled alike in ancient and in modern lore—grave and polished in their manners—courteous in their intercourse with all classes, but loyal to the stern and tyrannous social aristocracy of their land—upright,

*Works of Dr. Wells, p. 324.

benevolent, generous, industrious, skillful, and humane—worshippers of God, and lovers of men—they filled up faithfully the measure of their laborious and beneficent lives, and left to their survivors memories embalmed in the fragrant amber of gratitude and love. Dr. Baillie's father was a professor in the University of Glasgow—and his mother was a sister of the Hunters; Miss Joanna Baillie was his sister, and he married the daughter of the celebrated Dr. Denman. He studied his profession under the immediate personal direction of his uncle, William Hunter, and at the early age of twenty-two years, in connexion with Mr. Cruikshank, he continued the anatomical lectures at Mr. Hunter's school in Windmill street. Dr. Pitcairn, then at the head of the profession in London, made his friend, Dr. Baillie, the heir of his immense and lucrative practice; and under such auspices, and with his high qualifications, and his many excellent qualities of head and of heart—his thorough knowledge of his profession—his untiring industry—his exclusive devotion to his business—his clear, strong sense—his sound judgment—his simple, unostentatious, and dignified manners—his truthfulness—his generosity—his kindness to those less favored by fortune than himself—it is not strange that he rose so rapidly to opulence and fame. He died in 1823, having lived for twenty years in the full blaze of professional popularity; long a favorite attendant in the household of his sovereign, and his services in constant requisition by the noble, the fashionable, and the great. During a considerable portion of these same years of prosperity and success, Dr. Wells was also a London practitioner;—with high qualifications—a favorite friend both of Baillie and Pitcairn—but how widely different were the circumstances which attended his career, and the fortune which awaited him! *with five friends*, as he so sadly and touchingly says, *in the world;* abstemious in his habits, and almost sordid, to use his own words, in his manner of

living—struggling on from dismal year to year, in this boiling and turbid ocean of London life, with shattered and failing health, and scanty resources, but still paying scrupulously his income and property tax, and allowing for a good many years an annuity of £20 to a female relation; after a night passed in the open air of his garden at Surrey, plodding his way on foot to the houses of his few patients, or to the hospital and dispensary—a solitary wanderer through the crowded thoroughfares of the metropolis; receiving, at least in one conspicuous instance, and in a matter closely connected with his highest aspirations, and near to his heart, only harshness, contumely, and neglect, where he deserved and should have found only kindness, respect, and honor; and all this dull and hard environment of his life uncheered and unilluminated by the light and the warmth of the domestic affections, and of home!

I have already alluded to Dr. Wells's loyal adherence to the cause of Great Britain in her war with the American colonies. It seems that amongst the objections made by some of the Fellows of the College of Physicians, against the admission of licentiates, it was alleged that the latter had become imbued with revolutionary and republican principles. It may easily be supposed that Dr. Wells would find no difficulty in clearing his own character from a charge of this nature. "Leaving, however," he says, "to more able advocates, what further defence may be deemed proper for the other licentiates, who have been charged with disloyalty by the members of the College, I shall now confine myself to a special vindication of my own character from so atrocious a calumny. If, my Lord, I speak with warmth upon this subject, I trust that I shall find an excuse in the energy of your own feelings. He that is wealthy may be robbed, without knowing that he has experienced an injury. But the poor man's all is often included in a single object, which, al-

though to other eyes worthless and contemptible, may be to him the sole spring of joy and hope. Any attack upon it excites his utmost powers of resistance; its loss leaves him without bond to the world, or interest in its concerns. When we read of a rich man's despoiling a poor neighbour of his only property, 'one little ewe-lamb, which lay in his bosom, and was unto him as a daughter,' our sympathy with the sufferer is nearly as great, as if he had been a monarch unjustly expelled from his dominions. I may well then be allowed to feel acutely the attempt which has been made to strip me of almost my only possession, to which my title is founded upon paternal discipline and personal suffering, and has been illustrated by the whole tenor of my life."* He then narrates the circumstances of his conduct in Charleston during the war of the revolution. In a note to his letter to Lord Kenyon, he speaks with much feeling of the kindness shown to him, every day during his three months of imprisonment, by Mr. John Harleston, and his wife Mrs. Elizabeth Harleston, persons of rank and fortune in that country. A mob once surrounded Mr. Harleston's house in the night, threatening to destroy it on account of his protection of Dr. Wells. Mr. Harleston was from home; but his wife, with the spirit and dignity of a Roman matron, went out to the rioters, and told them, that her husband and herself had done nothing towards Dr. Wells but their duty, and that they should not be prevented from continuing to perform it, by any menace whatever. "One of those persons," adds Dr. Wells, "is since dead; the other still exists, an ornament to her sex. Excellent woman! enjoying in affluence, in the midst of thy children, and their children, the calm evening of a well spent life, and looking forward with a firm hope, inspired by our holy

*Works of Dr. Wells, p. 340.

religion, to another and a better state, though thou seemest already to possess as much of happiness, as is compatible with the infirmity of our present natures; it may yet afford thee some momentary satisfaction to know, that neither distance of place, nor intervention of time, hath lessened my sense of thine unspeakable goodness; and that at this moment my bosom heaves, and my eyes drop tears, while I reflect, that without thy tender cares concerning me, when sick and in prison, and far removed from those, whose duty it was to render me service under such distress, I might long ago have been numbered with the dead."*

Dr. Wells, near the close of his letter, enumerates several of the influences which act unfavorably upon the character of physicians, in the course of which he gives the following noble portraiture of Dr. Heberden. "Many of our physicians," he says, "have no doubt received little injury from the causes of the corruption of character, to which they have been exposed; and some few may have escaped their influence altogether. One of these few, Dr. William Heberden, I must conclude to have been well known to your Lordship, from the eulogy which you pronounced upon him, during the trial of Dr. Stanger's cause. He was probably, indeed, the only physician with whom you were intimately acquainted, and hence, from the natural error of attributing to a whole species the properties of its only individual we have seen, you might imagine that he possessed his many virtues in common with the rest of his class. But Dr. Heberden, my Lord, stands in a manner, alone in his profession. No other person, I believe, either in this or any other country, has ever exercised the art of medicine with the same dignity, or has contributed so much to raise it

*Works of Dr. Wells, p. 347.

in the estimation of mankind. A contemplation of his excellencies therefore can afford little help towards obtaining a just notion of the general worth of physicians. In speaking of a molehill, we would not employ terms that had relation to the immensity of a mountain.

"Were I, my Lord, possessed of talents adequate to the undertaking, I should here endeavor to describe at full length the character of that illustrious man. In this attempt, I should first mark his various and extensive learning, his modesty in the use of it, and his philosophical distrust of human opinions in science, however sanctioned by time, or the authority of great names. I should then exhibit him in the exercise of his profession, without envy or jealousy; too proud to court employment, yet undervaluing his services after they were performed; unwearied, even when a veteran in his art, in ascertaining the minutest circumstances of the sick, who placed themselves under his care, taking nothing in their situation for granted, that might be learned by inquiry, and trusting nothing of importance that concerned them to his memory. To demonstrate his greatness of mind, I should next mention his repeatedly declining to accept those offices of honor and profit at the British court, which are regarded by other physicians as objects of their highest ambition, and are therefore sought by them with the utmost assiduity. I should afterwards take notice of his simple yet dignified manners, his piety to God, his love for his country, and his exemplary discharge of the duties of all the private relations in which he stood to society; and I should conclude by observing that his whole life had been regulated by the most exquisite prudence, by means of which his other virtues were rendered more conspicuous and useful, and whatever failings he might as a human being possess, were either shaded or altogether concealed. After my description was finished, I should think it proper to say, that I had never been acquainted with Dr.

Heberden, and consequently could neither be dazzled by the splendor of his virtues, from approaching them too nearly, nor influenced in my opinion concerning them, by benefits he had already conferred upon me; and that standing, as he does, upon the verge of this state of existence, ready to wing his flight to another of glory, his ear must now be closed to the voice of flattery, had he ever listened to that siren, or were I base enough to solicit her aid, in the foolish expectation of receiving from him some future reward."*

In the memoir of his life, Dr. Wells says: "About four years ago Dr. Baillie asked me, in the name of the President of the Royal College of Physicians of London, if I had any desire to become a Fellow of it; to which I answered that I had none."†

Dr. Wells published an essay upon single vision with two eyes, and observations on several subjects in optics—rather speculative than experimental in their character, and leading to no very important or positive results. He furnished several short biographical sketches for the Gentleman's Magazine; several of his papers were published in the Philosophical Transactions, and in Thomson's *Annals*; and there are twelve papers on medical subjects, furnished by him, in the second and third volumes of the Transactions of a Society for the Promotion of Medical and Chirurgical Knowledge. The first paper, he says, which he ever wrote for the public, was an account of Mr. Henry Laurens, some time president of the American Congress, and which was published in a newspaper in 1780. He also furnished for the journals many political articles during the years 1780 and 1781; the most important of which was a paper upon the subject of military punishments—a paper which, he intimates, may have

*Works of Dr. Wells, p. 375. †Works of Dr. Wells, p. 40.

influenced General Balfour and Lord Moria in putting to death a Colonel Haynes, the propriety of whose fate was afterwards a subject of debate in the British House of Commons.* The memoir of his own life was dictated to his friend Mr. Patrick at intervals during his illness, after he had lost all hope of recovery, and while he was uncertain whether he should live to finish it, and when he was too feeble to speak long, or to write much.† He contemplated the publication of a metaphysical treatise; and he intended to have presented to the Royal Society several papers on Vision.

The work of Dr. Wells which has given him his chief scientific celebrity—which has written his name in the fair annals of science, beyond the reach of accident or time—is his *Essay on Dew.* A late brilliant writer quotes the concluding lines of Walter Savage Landor:

> "Pleased it remembers its august abodes,
> And murmurs as the ocean murmurs there,"

and then makes the following remarks:—"These are the far famed lines on a shell, which Wordsworth has imitated, and every body praised, and which, if they will not immortalize the name of Landor, nor embalm the poem of Gebir in which they occur, have assuredly immortalized and embalmed themselves. And never in remotest time, shall any one who has once heard or read them, gaze into the white depths of the child of ocean, or apply to his ear its polished coolness, and hear or seem to hear the faint and far-off murmur of the main, without imagining that these are the words which the gentle oracle is uttering, and this the meaning of the spiritual and mysterious music. They are among those rare lines which, giving to a common thought or belief an expression poetic and ideally perfect, stamp themselves at once

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*Works of Dr. Wells, p. 43. †Works of Dr. Wells, p. 42.

on the heart and memory of the world. *Enviable the powers which by one true and strong line render oblivion impossible.* Who does not bless the nameless warrior who has left the noble epitaph: *Siste viator, heroem calcas*, as his sole memorial? So cheaply, sometimes, does genius purchase immortal fame!" What huge cart-loads of poetry—so called—we may continue in a similar strain, are yearly trundled into market; what countless acres of the same article—all the lines regularly marshalled—armed and equipped according to the laws of Parnassus—trotting off on their due number of feet—their heads bristling with capitals, and their tails jingling with rhyme—are every month spread out before us on the innocent pages of newspapers and reviews—to be read before breakfast, and forgotten before dinner; while one brief hour of happy inspiration has given to the short and simple lines on the burial of Sir John Moore an immortality as assured and irrevocable as that which awaits on the Paradise Lost and Macbeth. And analogous, at least, to these instances, is the character, and the history of the *Essay on Dew.* Certainly, it would be extravagant to place the Essay of Dr. Wells in the same rank and scale with the *Novum Organum* and the *Principia*, or to compare his discoveries with those of Galileo, and Harvey, and Jenner—but amongst the works which come next to these transcendant achievements of the human intellect, there is no one which has attained, as there *is* no one which deserves a more eminent position.

What a beautiful phenomenon is that of Dew! As soon as the diminishing rays of the declining sun allow the surface of the earth to lose something of its noon-tide heat, this silent distillation from the great alembic of the atmosphere begins; and through the evening and the morning twilight, and the serene watches of the night, every leaf of the forest, every blade of grass, and every

flower of the field, gathers its beaded and transparent gems, to glitter like flashing diamonds, and to be exhaled like auroral incense in the rays of the early sun. And as if to give to this phenomenon an especial and particular beauty, it is witnessed only under cloudless heavens and in still nights; when the winds are hushed, and the stars are shining in the sky. What a delicious element would be lost from the manifold charm and glory of a summer dawn, if there was no dew on the grass and the flowers! And how would the breath of Aurora be robbed of its fragrance, and her roses of their freshness and their bloom!

Up to the time of Dr. Wells's researches, the true character of this process, the real causes of this phenomenon were entirely unknown. From the age of Aristotle, it had been a common observation, that dew appears in considerable quantities only on still and clear nights; and in the latter part of the last century, it was noticed by Dr. Wells, by Mr. Patrick Wilson, of Glasgow, and by Mr. Six, of Canterbury, that the formation of dew and of hoar frost is attended by the production of cold. Mr. Wilson and Dr. Wells, at this time, supposed that the cold was occasioned by the formation of the dew—that the latter was in some way the cause of the former. Musschenbrock and Dufay had studied the subject of dew, but had failed altogether to discover its true philosophy. Dufay and some others believed the deposition of dew to be an electrical phenomenon. Aristotle, Professor Leslie, of Edinburgh, and others, believed dew to be a species of rain, "formed in the lower atmosphere, in consequence of its moisture being condensed by the cold of the night into minute drops."* Gersten, who published an Essay on Dew in 1733, Noah Webster, of Connec-

*Works of Dr. Wells, p. 177.

tient, and some others, adopted the opinion that dew consists in vapor emitted by the earth at night, and condensed by the cold.* Such were the prevailing doctrines upon this subject, when Dr. Wells commenced his investigations, under circumstances and conditions, that give a touching and melancholy interest to the scene. This was in the autumn of 1812. Dr. Wells was then fifty-five years old—a lonely, austere, and abstemious man—the distressing disease which in a few years terminated his hard and chequered career, already far advanced; his ankles swollen at the close of the day—on the slightest exertion panting with breathlessness and palpitation, and

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*"As dew appears to collect only during fine clear nights, when the heavens glow with sparkling constellations, the ancients, in the infancy of science, imagined it to be actually shed from the stars, and therefore to partake of a pure and celestial essence. Hence the vulgar notion that *dew falls*, which has prevailed through all ages, and continues to tincture every language. * * The dew of heaven has always been regarded as a fluid of the purest and most translucid nature. Hence it was celebrated for that abstergent property which, according to the vulgar persuasion, enables it to remove all spots and stains, and to impart to the skin the bloom and freshness of virgin beauty. Like the elixir of later times, it was conceived to possess the power of extending the duration of human life; and Ammianus Marcellinus ascribes the longevity and robust health of mountaineers, in comparison with the inhabitants of the plains, chiefly to the frequent aspersion of dew on their gelid bodies. Dew was also employed as a most powerful agent, in all their operations, by the alchemists, some of whom pretended that it possessed such a subtile and penetrating efficacy as to be capable of dissolving gold itself. Following out the same idea, the people of remote antiquity fancied that the external application of dew had some virtue in correcting any disposition to corpulence. The ladies of those days, anxious to preserve their fine forms, procured this celestial wash, by exposing clothes or fleeces of wool to the humefaction of the night."

"The opinion that dew falls from the sky maintained its credit during the course of the middle ages. The alchemists even carried this idea so far as to fancy that, since the dew gradually vanishes in the progress of the day under the action of the solar rays, it then merely seeks by sympathy to regain its native seat in the highest heavens. Nay, some of those ingenious enthusiasts have not scrupled, in confirmation of their wild hypothesis, broadly to assert that a few drops of morning dew, being enclosed in an empty egg-shell, which is placed at the foot of a ladder resting against the roof of a house, the shell will become buoyant while the sun shines, and will mount along the ladder till it reaches the very top.

Encyclopædia Brittanica. Article, Dew.

his nights disturbed with restlessness and pain. Provided, as the principal parts of his apparatus, with some small thermometers, some plates of different kinds of metal, a few watch-glasses, and small pledgets of swan's down and wool, he repaired to the theater of his labors, which he describes in the following words. "Previously to mentioning the results of any of my experiments with these parcels of wool, I think it right to describe the place, where by far the greater part of my observations on dew were made. This was a garden in Surrey, distant, by the public road, about three miles from the bridge over the Thames at Blackfriars, but not more than a mile and a quarter from a densely built part of the suburbs on the south side of that river. The form of the garden was oblong, its extent nearly half an acre, and its surface level. At one end was a dwelling house of moderate size, at the other a range of low buildings; on one side a row of high trees, on the other a low fence, dividing it from another garden. * * Within it were some fruit trees, but, as it had not been long made, their size was small. Towards one end there was a grass-plat, in length sixty-two feet, and nearly sixteen broad, the herbage of which was kept short by frequent mowing. The rest of the garden was employed for the production of culinary vegetables."*

With the simple apparatus to which I have alluded, on the green sward of this little garden in Surrey, with only the silent stars and the blue sky above him, did the philosopher meekly and reverently enter the great temple of Nature—an earnest seeker of her secrets—an humble worshipper at her shrine. And the true offering which he laid upon her altar was blessed and accepted; the veil which had hidden one of her most beautiful mysteries

*Works of Dr. Wells, p. 137.

was withdrawn; a new and one of the fairest pages in her great volume was opened at his invocation to the wonder and admiration of the world. Few and simple as were the means with which Dr. Wells conducted his researches, his experiments were so various, so direct, and so conclusive—so sagaciously devised and so admirably executed—that the whole philosophy and economy of the subject, which he studied, were completely and definitively settled. It would be difficult, I think, to find any other instance in the history of physical science, where a subject, hitherto so little understood, was so thoroughly and so satisfactorily investigated, by a single, unaided inquirer; and where so little was left, either for amendment or addition by subsequent observers. From the commencement of Dr. Wells's researches, in the fall of 1812, he continued his experiments, often through the whole night, returning to his professional labors in London during the day, frequently interrupted by his increasing ill-health, till near the close of the following year, when he became so infirm and feeble as to be obliged to discontinue altogether his visits to his garden.

"In the beginning of 1814, a considerable snow having fallen, I could not resist," he says, "the temptation of going for several evenings to Lincoln's-Inn-Fields, during a very severe frost, in order to repeat and extend some of Mr. Wilson's experiments upon snow." But he was soon obliged to desist, and his symptoms became so alarming, that his friend, Dr. Lister, earnestly urged him to remain quiet, and announced to him that, in all probability, a few months would terminate his earthly career.

"Upon receiving this opinion," he says, "I set about immediately composing my Essay on Dew, as my papers containing the facts on which my theory was founded, would, after my death, be altogether unintelligible to any person who should look into them. I labored, in consequence, for several months with the greatest eagerness

and assiduity, fancying that every page I wrote was something gained from oblivion." And something it certainly was, gained from oblivion, and worth gaining from oblivion. This was his labor of love, and worthily did he accomplish it. He lived not only to complete his essay, but to publish a second edition. A generation has since passed away;—Science, with her manifold faculties —restless, unappeasable, longing for absolute and boundless dominion,—her forehead flushed with daily triumphs, and radiant with undying youth,—has extended in every direction the area of her empire, crowding and adorning it with her trophies;—art and industry have changed not only the whole face of nature, but the most intimate and vital relations of life and society, the intercourse of man with man, and the interchange and transmission of thought; but this handiwork of Dr. Wells still stands as he left it—not like the colossal calculus of Newton, holding in its stupendous embrace, alike the light dust on the balance, and the infinite universe of worlds; but, nevertheless, finished, faultless, and entire,—compact and perfect in itself,—graceful and imperishable as one of the granite obelisks of the Nile, resting its basis on the solid earth, and lifting its apex high towards the heavens. Such is the clear and concurrent verdict of scientific men; and as long as the earth in her annual circuit round the sun, proclaims, in the music of the spheres, the name of Galileo;—as long as the glory of Newton is set with the rainbow in the firmament;—as long as the fame of Harvey is spoken by every throb of the beating heart; as long as the lightning flashes forth from horizon to horizon the great discovery of Franklin; so long shall the hoarfrost and the dew, as through winter and summer, in each still and starry night, they gather and sparkle, over all the broad surface of the earth, upon hedgerows and fences, upon mountain and valley, upon field and forest and meadow, upon cottage-roof and temple-dome, keep green

and unfading the name and the memory of William Charles Wells.*

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* A critique on the essay appeared in the Quarterly Review for October, 1814, written, as it appears from a reply of Dr. Wells, by the learned and philosophical Dr. Thomas Young. The notice is, on the whole, commendatory; but it almost damns with its faint and reluctant praise. Dr. Young says that the theory advanced by Dr. Wells is a consequence so simple and obvious of the principles deduced from the discoveries of Mr. Leslie and other observers, and then generally admitted, that it only required to be distinctly stated and clearly understood, in order to be considered satisfactory. The notice is concluded in the following manner, the allusion in the last sentence being intended for the writer [Dr. Young] himself:—"Had Dr. Wells been as solicitous to attend to the labors of his cotemporaries as he has been very laudably anxious to recur to those of his predecessors, he might have said, not that the experiments of Mr. Prevost *might* be easily accounted for, from the properties he mentions, but that they actually *had* been explained in a similar manner by one of his own countrymen. There are, however, some modern philosophers, who, whether from their own fault, or from that of their hearers and readers, or from both, appear to be perpetually in the predicament of the celebrated prophetess of antiquity, who always told truth, but was seldom understood, and never believed; and the author of the lectures in question has not unfrequently reminded us of the fruitless vaticinations of the ill-fated Cassandra."*

Dr. Wells replied to Dr. Young, at considerable length, in Thomson's Annals for April, 1815. To the remark of the learned writer, that the theory of Dr. Wells is a simple and *obvious* consequence of principles deduced from the discoveries concerning heat, by Mr. Leslie and other observers, he replies by saying:—"The inquiry of Count Rumford, and the essay of Mr. Leslie, were both published in 1804; and in these works are to be found all the new facts relating to heat, which I have taken from others in forming my theory of dew. Whether Count Rumford ever afterwards treated of atmospherical appearances is unknown to me; but Mr. Leslie published, nine years after his essay, a work on heat and moisture, in which, agreeably to the opinion of Aristotle, the production of dew is attributed to the condensation, by the cold of the night, of watery vapor diffused through a considerable portion of the atmosphere. Now, when the great ingenuity of Mr. Leslie is considered, if the theory of dew, which I have proposed, be an *obvious* consequence of his own discoveries, it would assuredly have occurred to him, in that long space of time, since he has shown that the subject of dew had in the meanwhile occupied his attention."†

Dr. Wells's answers to other portions of the criticism seem to me to be equally fair, manly, and satisfactory. He concludes in the following terms:—"But, I must, on the other hand, be permitted to say that if Dr. Young, forgetting that Newton became a glass-grinder in the service of science, will neglect to employ, for the increase of natural knowledge, the

* Quarterly Review, February, 1814.
† Thomson's Annals, April, 1815.

A few traits of character, picked up from the memoir of his life, will serve in some degree to complete the portrait of Dr. Wells, which I have been endeavoring to sketch. One can hardly help being struck, amongst other things with the *variety* of his occupations, and the *versatility* of his powers. After having crossed the Atlantic to pursue his early studies in Scotland, we find him again in America, a medical student; in a few years, driven by the storm of the revolution, back to Great Britain, and pursuing his medical studies in Edinburgh; doing duty as a surgeon to a Scotch regiment in Holland; imprisoned and finally dismissed the service, for insubordination and rudeness toward his superior officers; preparing his Latin thesis at Leyden; returning from the continent to Scotland and thence to Carolina; looking after the affairs of his family there, and endeavoring to effect a reconciliation between his father and brother; acting at the same time as an officer of volunteers, and a judge advocate in a general court martial of militia officers; engaged as a printer, bookseller and mercantile agent; publishing and conducting a political newspaper in Florida; again captain of a company of volunteers; theatrical manager of a company of young officers, who performed plays for the benefit of the indigent loyal refugees from Carolina and Georgia, achieving great success, he says, in the characters of Lusignan in Zara, and Old Norval in Douglas, but failing in the part of Castalio in the Orphan, and doing still worse in his attempts in comedy; returning from

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slow and laborious method of observation and experiment, and will frequently exhibit his speculations in a manner, unsuited to the capacities of ordinary men, he ought not to think it strange, that opinions advanced by him on difficult points of philosophy, are not, agreeably to his own remark at the end of the criticism, received as truths beyond doubt, and are often not understood."*

* Thomson's Annals, April, 1815.

Florida to Charleston, to be assailed by mobs, and imprisoned for debt; going back finally to England; engaging in London in public and private practice; enriching the literature of his country with *medical, philosophical, metaphysical* and *polemical* essays of great ingenuity and remarkable ability; and at last crowning his life and labors with one of the finest achievements of inductive philosophy that the world has ever seen.

It would have been strange and unnatural, if the rough and harsh discipline of his life had failed to leave some of its traces on the habits and temper of his mind—wayward, irritable and impulsive as this naturally was. Dr Garden once attempted to strike him; he eluded the blow, and for three years afterwards, reserved and distant in his manners, he held himself aloof from the society of his teacher and of the young men of the town, and devoted himself seriously and exclusively to his studies.—When acting as surgeon of a regiment in Holland, having received some injury from the colonel of his regiment, he attacked him openly in the street, and challenged him to fight. "I lived," he says, "till I was near eleven years old, close upon the harbor of a large sea-port in America, and by this means associated much with blackguard sailor boys. To this I attribute a practice of swearing, of which I have from the time of being a child, been frequently guilty, when my feelings have been agitated, and even sometimes when no excuse of this kind has existed."* "My temper," he adds in another place, "was naturally irritable, and in small differences which have occurred in society, particularly in my youth, passionate and violent. But, I must, in justice to myself, say, in the first place, I have not shown any considerable instance of this kind,

*Works of Dr. Wells, p. 48.

for nearly twenty years; and in the second, that I did never show one, even before that time, in any matter of consequence, or when I had any respect for the person with whom I differed. In confirmation of both these remarks, I shall mention, first, that I have never had the smallest difference with any one of my five most intimate friends; and secondly, that I have borne the grossest insult, when it was unmanly to take immedite notice of it."*

I have already spoken of the conservative character of his political principles. In the course of his memoir, he says, "From the time of the murder of the Princess Lamballe, I foresaw the ruin of all civilized society in France, and dreaded a similar ruin of all civilized society in Europe; I have never, therefore, been able to hear, with the least patience, any serious defence of the conduct of the French; and have always attributed such a defence to incurable folly, self interest, or madness. In all points of domestic politics, I have kept myself free from personal influence, by never seeking the acquaintance of any person of the least influence in the country. By principle I am a constitutional Tory; but my manners, I should think, would lead most persons to regard me a republican."†

Finally, and as we drop the curtain upon this chequered landscape of human life, which for the passing hour we have been contemplating, let us turn our last lingering gaze upon the clouds which envelope it, lighted up with the serene radiance of generous friendship and manly love. With what simple, and beautiful, and touching sincerity does he speak of his friends. "My last declaration," he says, "will relate to the obligations under

*Works of Dr. Wells, p. 58.
†Works of Dr. Wells, p. 60.

which I lie to my friends. I have already spoken of my rare good fortune, in having acquired, in the course of my life, five most intimate friends." These friends were David Hume, Mr. William Miller, afterwards Lord Glenlee, Dr. Robertson Barclay, Dr. Matthew Baillie, and Dr. Lister. "All of these," he continues, "are still in being, and from all of them I have received, throughout my illness, the warmest proofs of attachment. Two of them, however, have most especially afforded such proofs, Dr. Lister, and Dr. Baillie, partly from their residing in London, and partly from the nature of their profession. My obligations to Dr. Lister are extreme. During the whole of my disease, he has visited me constantly twice, and sometimes thrice a day; and during each of these visits, he has conducted himself towards me, with fully as much kindness, as if I had been his brother."*

ART. IV.—*Notes on a Case of Fatal Poisoning by Metallic Arsenic*
By B. SILLIMAN, Jr., M. D., Professor of Chemistry and Toxicology in the University of Louisville, and of Chemistry applied to the Arts, in Yale College.

The case here related is of interest chiefly because of the comparative rarity of this mode of arsenical poisoning. The facts of the case and the steps of my examintion are given very nearly in the words of the deposition —this may account for the want of condensation in this communication, which might otherwise be presented in much fewer words. It may not, however, be without interest to the general reader, as showing, to some degree, the manner in which the toxicologist proceeds in such cases.

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*Works of Dr. Wells, p. 49.

On the fourth day of September, 1849, Dr. J. W. C., of Bristol, Connecticut, brought to my laboratory the stomach of a man, who, as he stated, died in the town of Bristol, under suspicious circumstances, leading to the supposition that he had been poisoned. I consented to make a toxicological examination of the stomach, at his request. This I commenced in his presence immediately after the presentation. The stomach was presented to me in a vessel of alcohol; both the orifices of the organ were tied with ligatures, which, as I was informed, were put on before its removal from the body. The stomach had not been opened; it was to appearance fresh, no change nor decomposition having taken place; nevertheless it appeared of a livid and unnatural color. A strong, horizontal line divided it into two equal portions, the lower portion being dark, the upper opaque and not unnatural in its appearance. With Dr. C's assistance I opened the stomach by a long incision, exposing its interior. Its internal appearance was strikingly unhealthy, livid and inflamed, resembling the effects of acute gastritis. Its contents appeared singularly unnatural, being not less in quantity than one pint of dark colored, brownish fluid, thick, and resembling in color and appearance rich chocolate. The line of division spoken of before, was not so apparent on the interior as on the exterior. The whole interior surface presented strong evidence of inflammation; the color was livid, with lines of extravasated blood. The mucous coat was lined with the chocolate colored matter before mentioned. I detected no trace of food in the stomach, save a few filaments of reddish matter resembling the skins of tomatoes.

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My first chemical examination was made upon the contents of the stomach. I proceeded to analyze the chocolate colored matter. After reducing it to a transparent solution by means of agents of known purity, I submitted it to the action of a current of sulphuretted hydrogen. I was soon satisfied, from the orange colored precipitate

that was produced, that there was some metallic substance present in the stomach. This precipitate was not very abundant, nor of so deep an orange color as to be of the most decided character. It was, however, completely soluble in caustic ammonia—a character which belongs to the sulphuret of arsenic. The evidence obtained by this preliminary trial was such as to induce farther and more critical examination as to whether the suspected substance was arsenic, antimony, cadmium, or tin—the only metals capable of producing a yellow compound with sulphur under the circumstances above described. I searched, at first, in vain upon the coats of the stomach for anything resembling a white powder.

My next step was to take a portion of the substance of the stomach itself, as well as of its contents. This I proceeded to reduce, by means of the process of Fresenius and Von Babo, to the state of a perfect and colorless solution. This process, occupying several consecutive hours, was conducted with care, to avoid contamination from every source—meanwhile, with the advantage of a stronger light, I employed myself with a more critical optical examination of the surface of the coats of the stomach, hoping to detect thereby something which should indicate the probable cause of the appearance before described. On scraping the dark brownish matter from off the coats of the stomach, I observed in several places, adhering firmly to the mucous coat of the organ, dark colored grains, resembling at first sight grains of black pepper; some of them, however, had a metallic lustre and resembled tinfoil. On inspecting these metallic grains, it at once occurred to me that they might be metallic arsenic, or "cobalt," as this substance is absurdly called, in the shops of the apothecary and in commerce. I accordingly proceeded to determine by experiment the true nature of these grains. On heating some of them in a closed tube of glass they were entirely volatilized, or sublimed, lining the interior of the tube with a brilliant

metallic coat, whose surface reflected like a mirror. The extreme borders of this metallic ring were fringed with a white crystaline powder. Another portion of these grains was in like manner volatilized, but with the access of air. In this case the dark metallic coat at first formed was rapidly changed to a white crystaline coating, which on examination with a magnifying glass was seen to consist of a great number of minute but very brilliant eight-sided figures. Another tube, in which a portion of these metallic grains from the stomach had been sublimed and converted by the aid of heat and air, into the white crystalline lining last described, was next treated by a current of sulphuretted hydrogen gas, by which means, with the aid of heat, the white coating was completely converted into a brilliant yellow substance, entirely resembling the yellow sesqui-sulphuret of arsenic, or orpiment. That no doubt might remain as to the real nature of this substance, I proceeded next to pass through the same tube a current of strong ammoniacal gas. The yellow coating was thereby immediately dissolved into a clear transparent yellow fluid. By the aid of a gentle heat the ammonia was expelled from this fluid, and the original yellow coating reappeared as before. The series of properties here described is found in no other substance than arsenic.

The evidence above detailed is such as produced the strongest conviction that the substance under examination was metallic arsenic, and that it could be nothing else.

The above experiments were conducted mainly during the interval of two days, in which the portion of the stomach already alluded to and its contents were in process of transformation from the solid condition to that of fluidity. My next trials were made on the solution thus produced, with a view to the detection of similar evidence in it. The result, however, already obtained, led me to expect, that the evidence to be derived from the muscular tissues of the stomach, would be much less remarkable than that

obtained on the solid contents, to wit: the metallic grains before spoken of. The solution was treated with a current of sulphuretted hydrogen gas. In a short time a very decided precipitate, of an orange yellow color, appeared in the solution, after standing for some hours in a warm place. This was collected upon a filter, separated from the solution, and carefully dried at a regulated temperature. A portion of this yellow precipitate was mixed with appropriate reducing agents, in a tube of hard glass, and exposed for a short time to a red heat; the neck of the vessel during this process of heating, became lined with a dark metallic-looking coating, resembling in all respects the similar rings produced by arsenic.

Another portion of this yellow precipitate produced from the solution of the stomach, was treated with caustic ammonia—complete solution ensued. This is a characteristic property of the yellow sulphuret of arsenic.

I next proceeded to try a test which is regarded by most chemists as one of peculiar certainty. This test is known as Reinseh's test; from the name of the discoverer. I regard it as of any single tests the most satisfactory, as well from the unequivocal evidenee which it yields as from the facility of its application in cases where other tests may give equivocal evidence. A portion of the suspected substance made slightly acid by hydrochloric acid, and freed from turbidness by filtration, is boiled for a few moments in contact with a slip of bright metallic copper. If arsenic is present in the most minute quantity, the surface of the copper becomes immediately tarnished, and assumes the color of steel more or less completely in proportion as the quantity of arsenic may be greater or less. This test was applied to the case in hand. The bright metallic copper, after a few moments boiling it, was placed in contact with a portion of the tissues of its contents treated as just described, and assumed distinctly the grey color of steel. A portion of

this copper cut from the slip, was heated in a tube of glass, whereby the grey coating was immediately transferred from the copper to the glass, lining it with a similar metallic mirror to those which had been previously produced in the tubes before described. This coating derived from the copper, gave all the reactions which have been described as peculiar to arsenic.

It is well known to chemists, that metallic arsenic, when heated in contact with the air, burns with a peculiar odor, which is described as the garlic-like or alliaceous odor. This character is much insisted upon by some writers on medical jurisprudence, as one of great importance. I obtained the garlic like odor, as well from the metallic grains found on the coats of the stomach, as from the yellow precipitate obtained from dissolving the substance of the organ itself.

It was deemed unnecessary, after the very sufficient and convincing testimony already obtained, to resort to any of the numerous and less satisfactory means known to chemists for the detection of arsenic.

The production of the metallic ring; its entire volatility by heat; its conversion, by the aid of heat and air, into brilliant white octohedral crystals; the further transmutation of these, by means already described, into yellow orpiment; the solubility of this yellow substance in ammonia; its reproduction, unaltered, upon evaporation of the ammonia; and finally the reconversion of this yellow substance, by reducing agents, into the original brilliant metallic mirror, forms a chain of consecutive evidence of the most satisfactory character, and such as can be produced by no other substance in nature than arsenic.

I should regard the production of the metallic mirror of the alliaceous odor, and of the white crystalline grains found on heating the black mirror, a sufficient and irrefragable proof that the suspected substance was arsenic.

I am satisfied, as the result of my research in this case, that death was produced by the administration of metallic arsenic, otherwise called cobalt or fly powder.

I was unable to form any opinion as to the quantity of metallic arsenic present in the stomach.

There is evidence on record that life has been destroyed by arsenic administered in doses of from three grains to as many ounces. It would probably require a greater quantity of cobalt than of the white arsenic to destroy life, since it is only the small part of the metal, which has become partly oxydised, which acts as a poison. It is remarked by writers on medical jurisprudence, that a frequent symptom from poisoning by arsenic is the secretion by the stomach of a dark brownish chocolate-like fluid, which is not unfrequently ejected by vomiting, and which is found in the stomach and intestines on a postmortem examination.

It is a well known próperty of arsenic to act as a preservative of animal matter. Its antiseptic properties are so strong that in many cases of poisoning by this substance, the stomach and organs of digestion have been found in a perfect state many months and even years after interment.

The medical testimony in this case is less satisfactory than the chemical. The patient had been unwell for some days with symptoms supposed to be occasioned by simple derangement of the bowels, accompanied by nausea and vomiting. The medical attendant was called on Thursday evening, Aug. 30, and found the patient in bed. He complained of nausea, thirst, and constant distress at the stomach, and pain in his bowels; pulse feeble and irregular; his hands cold. He was treated with Hopkins's elixir, followed by Dover's powders, camphor gum and sudorifics. The following day he appeared easier, and was in a perspiration. Still complaining of his stomach, an emetic was administered of ℞. Antim. tart. grs. ii., pulv.

ipecac grs. xx.; which, failing to act, was repeated—each in three doses.

He was not seen again until nine o'clock on Friday night, when he was in a state of collapse, with great distress in the stomach and great difficulty of breathing; pulse not perceptible; hands and feet cold and livid. He complained of extreme heat in the pit of his stomach, and conversed with difficulty; had a constant disposition to vomit, general twitching of the muscular system, and frequent alvine discharges; countenance pallid; skin cold and bedewed with a clammy sweat. Diffusible stimulants were administered, and he died about midnight following, say thirty-six to forty hours from the time he was first seen by a medical attendant.

The autopsy detected nothing remarkable in the upper viscera. The stomach, however, showed distinct marks of inflammation, by a medial ring of vermillion red, extending around it; below—say three-fourths of the organ—was dark, nearly black, colored; the upper portion healthy. It does not appear that the alimentary canal was examined. The appearance of the stomach, when opened, has already been alluded to.

We certainly cannot fail to recognize here several of the main features of arsenical poisoning, but of a comparatively mild type. It is not stated whether there was injection of the conjunctiva, and no medical attendant was present during the three or four hours immediately preceding death. We are not able, therefore, to decide whether tetanic convulsions were developed. Nor indeed are these by any means universal in arsenical poisoning, although frequently present. The "muscular twitchings" however, recorded in the testimony, look that way. No mention is made by the medical attendant as to the nature of the matter vomited—but judging from the abundance of the dark brown tinted matter, mixed with mucus, which I found in the stomach, we cannot doubt that this

matter was also ejected. This case presents, then, the the following train of symptoms, all indicative of arsenical poisoning, viz: Faintness; depression; nausea, with intense burning pain in the pit of the stomach; constant thirst; pain more intense at the close; pulse very feeble at first, and wholly imperceptible at last; diarrhea; muscular contractions, or twitchings; difficult respiration; cold and clammy skin in the collapse; and brown turbid secretion in the stomach.

It is doubtful, on a review of the symptoms, whether any characteristic symptoms is wanting; and, certainly, when taken in connection with the chemical evidence, there can be no doubt that death was occasioned in this case by metallic arsenic.

Louisville, Ky., Dec. 19, 1849.

REVIEWS.

Art. V.—*A Treatise on the Diseases of the Bones.* By Edward Stanley, F. R. S., President of the Royal College of Surgeons of England, and Surgeon to St. Bartholomew's Hospital. Philadelphia: Lea & Blanchard. 1849.

In our former notice of this valuable book, we reached the section on suppuration. On this interesting subject, Mr. Stanley is very lucid and practical, and his remarks and facts deserve the attention of the general practitioner. We shall endeavor to present our readers with the principal matter of his remarks on this subject.

Suppuration in the bone is conveniently distinguished into the circumscribed and diffused abscess. The circumscribed abscess is usually situated near to, or within the articular ends of long bones; but it is sometimes formed in the middle of their shafts. "Generally, at the seat of the disease, the coverings of the bone are tender, a constant aching is felt in the bone, with paroxysms of acute pain and severe constitutional derangement. In some instances there is a remission of the symptoms so complete, and for such a length of time that the patient seems to be well: but the pain in the bone, from the confinement of matter within it, has returned." In one instance Mr. Stanley traced the remission of the symptoms to the formation of a passage in the wall of the abscess, permitting the escape of the matter from the interior of the bone into the parts around it. In some instances a circumscribed abscess enlarges much beyond the natural limits

of the bone. This is in consequence of the combined actions of absorption on the inside of the abscess, and of osseous deposit on the outside, and the osseous walls may acquire any degree of thickness according to the predominance of absorption in one direction, or of osseous deposit in the other. In the museum of the Royal College of Surgeons in Edinburgh, there is an instance of a large osseous cyst originating in the head of the tibia the walls of which are more than an inch thick. A circular aperture, about an inch in diameter, extends through the wall of the cyst, into which the patient used to introduce a wooden plug, and withdraw it to allow the escape of matter, on feeling pain from distension of the cyst. In this way, from sixteen to twenty-four ounces of purulent fluid were every day discharged from the cyst." "Another osseous cyst, in the same museum, within the lower part of the femur, is twenty inches in circumference."

"A diffuse suppuration through the cancellous and medullary tissue of bone is usually a most formidable disease, leading to destruction of the bone and of the soft parts around it, with the most severe constitutional derangement."

The usual causes of suppuration in bone are local injuries, long exposure to cold and moisture, fever, sloughing of the soft parts, after amputation, and compound fractures. The general practitioner should remember the fact that suppuration may take place in the medullary tube of a bone involved in compound fracture, and should also remember that such an evil is scarcely possible, if the proper application is attended to. A contemplation of the disasters that attend suppuration in the bone should lead the judicious practitioner to take care that the evil shall not come from mal-practice.

Suppuration in bone may end in necrosis, and the evidence that the necrosis is from that cause, is "the deposit of purulent fluid or lymph within the bone, which

is not a character of necrosis arising under any other circumstances."

The diagnosis of suppuration in bone is somewhat difficult. The distinctions between the neuralgic affection of bone, inflammation of its tissue, and suppuration, are not so perfect as to secure the physician against error. The necessity for correct diagnosis is obvious from the fact that perforation of the bone must be resorted to in order to remove the purulent collection. The symptoms accompanying the circumscribed abscess in bone are not in general such as bespeak the nervous or hysteric character of the disease, but, Mr. Stanley says, we must not too confidently rest upon this.

Inflammatory affections of bones most frequently arise in the shafts of the bones, while the circumscribed abscess rarely occurs elsewhere than in their articular ends. But Mr. Stanley points out a difficulty here that should not be forgotten. He says: "Part of the shaft of a long bone has gradually enlarged from inflammation in its tissue; then upon the occurrence of a fresh paroxysm of inflammation, increased swelling of the bone has ensued with such severity of pain as to have led to the supposition that there must be matter confined within it." These symptoms may arise from tension and stretching of the inflamed periosteum over the swollen bone.

In the commencement of the remarks on the treatment of suppuration in bone, Mr. Stanley very properly pays a well merited tribute to Sir Benjamin Brodie for "ascertaining the circumstances which indicate the confinement of a small quantity of matter in a circumscribed cavity within bone." By applying this knowledge in perforating the bone, and "thus obtaining an outlet for the matter with immediate and complete relief," Sir Benjamin has saved limbs, which, without this improvement in surgery, would have been consigned to the amputating knife.

In applying the trephine for the evacuation of pus

from bone, the rule is to select the chief seat of pain as the place for the use of the trephine. After this instrument has penetrated as far as the judgment of the surgeon may decide prudent and necessary, if no matter should appear, the cancellous texture should be pierced with a small perforator, around the opening made by the terphine. It must be remembered that the smallest quantity of purulent fluid confined within a bone has been the source of very severe suffering; and, when mixed with blood, which generally escapes freely from the inflamed cancellous texture around the abscess, the purulent fluid might not be distinctly recognized. The character of the fluid escaping from the bone should, therefore, be closely scrutinized. The application of these principles to collections of matter in the bones of the cranium requires great care and judgment. Mr. Abernethey's high authority may easily lead the practitioner into difficulty, for symptoms that may be supposed to denote the existence of pus in the diploe may arise from inflammation of the membranes of the brain. Even in cases of purulent accumulation in the diploe, seen by Mr. Stanley, where the trephine was used, it was of no avail; the accompanying inflammation in the membranes of the brain proved fatal. Suppuration in these bones, and necrosis require careful management. An expectant treatment is the proper one.

From the masterly exposition of the subject of suppuration in bone, Mr. Stanley passes to caries, in which term is expressed those changes that are consequent on chronic suppuration in the cancellous texture of bone.

Caries is distinguished into the simple, scrofulous, syphilitic, and phagedenic varieties. It ensues from comminuted fractures of the cancellous texture, or from such injuries as the crushing of this texture by a bullet; it also ensues from the influence of the scrofulous diathesis, and from the action of the syphilitic poison; and there are cases of it not referable to any distinct cause.

We quote Mr. Stanley's description of the phenomena of caries. He says, they are: "inflammation extending from the bone to its investing soft parts, these become swollen, thickened, and tender; abscesses are formed in them, which contract into fistulous passages leading to the diseased bone. The periosteum covering the diseased bone becomes thickened, very vascular, and readily separable from it. The bone itself is at first very vascular, then its cells become filled with a reddish brown fluid, apparently a mixture of blood and pus, and occasionally combined with oily particles. Absorption of the bone, but chiefly of its animal part, ensues; that which remains is porous and fragile, and of a grey, brown, or black color, probably from decomposition of the matter within its cells; to which cause, likewise, the fetid odor of the matter discharged through the fistulous passages may be ascribed. The diseased bone may gradually disappear, either by ulceration, or by its discharge in fragments through the fistulous passages in the surrounding soft parts. Ulceration, in some instances, commences within the bone, hollowing it out, and reducing it to a thin shell; in others, the ulcerative process commences in the outer surface of the bone, and extends progressively inwards. Whilst these changes are in progress, granulations, very loose and spongy, and bleeding on the slightest touch, often arise from the diseased bone, filling the cavities in its interior, and protruding through the fistulous passages in the soft parts covering it."

But in bones that are deeply situated, caries is often accompanied by very little evidence of inflammation, either in the bone or investing soft parts. Thus the scrofulous caries of the spine often advances to the destruction of the bodies of many vertebra, without tenderness in the bones or in the soft parts investing them.

The difference between caries and circumscribed abscess is tolerably well marked. Circumscribed abscess is rarely followed by the formation of a fistulous channel

in the walls of the bone and adjacent soft parts, affording outlet to the matter. In caries and internal necrosis, such a channel is almost invariably formed in the walls of the bone and their investing soft parts; through which channel, in caries, matter is discharged from the diseased bone; and in necrosis, from the inflamed cancellous texture around the dead bone.

The diagnosis between caries and internal caries is not well marked, and practically it is not important that it should be. The object of the treatment is the same in both cases—the removal of the diseased, or dead bone. Caries and necrosis often exist together in adjacent portions of bone, as in the instances where suppuration ensues in the cancellous texture adjacent to dead bone. The portion of bone which has been long carious often perishes, and thus the caries becomes changed into necrosis. These circumstances lessen the value, says Mr. Stanley, of a diagnosis of these affections by their external character.

Inflammation precedes suppuration and the consequent disorganization of the cancellous texture of bone which constitute caries. The inflammation is of a languid character, and though depletory remedies will not arrest the inflammation, they are serviceable by diminishing the inflammation of the soft parts around the diseased bone.

Nature does much for the relief of caries, and but few cases occur in surgical practice that require the exercise of a finer judgment than caries of the various bones. For instance, when the astragalus is in a carious condition, it is difficult to determine whether the disease is confined to it, or has extended to the adjacent bones and soft parts. Similar difficulties present themselves in caries of the cuniform bones. Internal necrosis and circumscribed abscess in the tarsus present similar considerations. Such cases present the same thickening of the surrounding soft parts, and fistulous passages in them are observed as in

caries. The difficulty is to determine how far the diseased action extends. Most of the operations for the removal of carious bone occur in the hand or foot; and in the performance of them the endeavor should be to remove no more bone than may be unsound.

Incisions through the soft parts over carious bone are of use in affording free outlet to the matter, and thus checking its diffusion through the bone. Local applications to carious bone must be of a soothing character. Stimulent applications will do no good, and may produce fresh attacks of inflammation in the bone and thus extend the caries.

There are cases of caries not suited to any operative proceedings. Peculiarities of constitution, and old age are the points to be considered in such cases. Depletory and sedative remedies, constitutional and local are applicable here, and iodide of potassium is useful in arresting the inflammation of the periosteum, covering the diseased bone. Quietude is of great value in all cases of caries, and its necessity cannot be too forcibly impressed upon the mind of the patient, nor too rigorously enforced by the surgeon.

Ulceration of Bone.—Under this head we find little that is beyond what has been recorded by Hunter, Weidman, and others, and we shall not dwell upon the characteristics of the disease. The treatment recommended by Mr. Stanley is practical and as useful perhaps as any that has been presented to the profession. The local remedies should be of a soothing nature, but sometimes astringents and mild stimulants are serviceable for the promotion of the growth of healthy granulations from the bone. Strongly stimulating applications to ulcerated bone are objectionable, as they are likely to excite fresh attacks of inflammation in the bone, and may thus change the character of the disease, by giving rise to caries or necrosis in the ulcerated bone. Mr. Stanley says; "It is not to

be doubted that a powerful counter-irritant, as the moxa or caustic issue, applied to the integuments over a joint, the bones of which are ulcerated, can arrest the ulcerative process." "It is certain, that in ulcerative disease of the bones of the spine, as also in joints, a powerful counter-irritant will rid the part of the severe pain which characterizes the ulceration of bone in its active form."

It may not be amiss to call attention to a state of things, in which symptoms of inflammation of the bone are so well simulated that an unpracticed mind might be led into a serious error. A man in apparent health is suddenly seized with an excruciating pain in the hip-joint. Every attempt at sneezing or coughing produces such an amount of suffering in the joint, that the patient sedulously guards himself against everything of the kind. We have seen this form of disease occasionally in Louisville, and have often witnessed the severe trials of the sufferer in his attempts to prevent sneezing or coughing. We are indebted to Mr. Abernethy for a description of this disease. There is really no affection of any of the parts of the joint—the derangement is in the stomach, and that organ, instead of complaining itself, makes the hip-joint express the suffering. Mr. Abernethey's invaluable treatise on the "Constitutional Origin of Certain Local Diseases," reveals many singularities of this kind, and shows the proper treatment for such a case as we have described. A simple emetic is usually sufficient for the relief of such a case, but sometimes, an alterative course of blue pill is necessary to accomplish permanent relief. The emetic, however, removes the pain in the hip instantaneously, and we have seen all traces of suffering disappear as soon as nausea was produced.

In our regular analysis of Mr. Stanley's admirable work, we have reached the subject of necrosis, a theme better calculated than almost any other to excite the admiration of the surgeon, and to demand the use of his

contemplative powers. The chemist, ardent in the love of his science, proud of its great achievements, its wonderful progression, and bewildered by what it has accomplished, sometimes permits himself to fancy that the object of his devotion may yet succeed in making all the materials useful to human life, from the elementary substances of which they are composed. The physiologist in contemplating the reproductive powers of the vital principle in animal life; in watching the curious methods by which nature regenerates parts that have been destroyed, may be almost excused if he indulges the fancy, that, in the future progress of science, vital processes may be better understood than at present, and that an art may be discovered by which the various organs and tissues of the system, as they wear out by action, may be rejuvinated and presented to the vital power for a new race in existence. The vital principle never grows old; it tenaciously adheres to its connection with organism as long as the material is susceptible of its impressions.

In surveying a subject of such importance as necrosis much useful matter relative to practical points in other subsystems, beside the osseous one, must spring up in the mind of the attentive student. While we narrowly survey nature in her connection with necrosis, inspiration may be caught from her processes for a widely extended use of the lessons thus taught. The whole realm of nature belongs to the physician, and he alone is accomplished in his science, who has made an intimate acquaintance with that extensive domain. All the sciences are the servitors of medicine, and he is most wealthy in the treasures of healing knowledge, who has the largest number of these servitors usefully employed. But we must proceed with the subject of necrosis.

Mr. Stanley says: "Necrosis of the shaft of a long bone in the ordinary mode of its occurrence, is an example of the simple death of bone without change in its

structure; but when necrosis has been preceded by chronic inflammation, the dead bone will be hardened; or after other diseased changes, it may be soft and fragile."

"Dead bone usually presents a yellowish white color, consequent on the blood being withdrawn from its vessels, but it often becomes of a brown or black color. The color of a dead bone appears to be influenced by its exposure to the atmosphere. It is often brown or black to the extent only that it is uncovered; the change of color does not extend below the surface of the bone, except in the instances of its texture being porous."

The portion of bone usually affected with Necrosis.—Necrosis occurs less frequently in the cancellous than in the compact tissue of bone. Owing to this resisting power in the cancellous texture, rising from greater vital endowment, necrosis in the shaft of a bone, *rarely* extends to its articular ends.

Bones most generally affected.—The tibia is more liable to necrosis than any other bone, and the liability of the other bones is in the following order; the femur, the humerus, flat cranial bones, lower jaw, last phalanx of the finger, clavicle, ulna, radius, fibula, scapula, upper jaw, pelvic bones, and the ribs. An attention to this order of liability to necrosis may give some aid to diagnosis. A certain class of symptoms occurring in the tibia would lead the surgeon to suspect necrosis more readily than if those symptoms presented themselves in connection with the ribs. The tibia appears to be the most general point for invasions of disease. Necrosis is of frequent occurrence in the cancellous texture of the head of the tibia, so frequently, indeed, that there seems to be something in the structure and functions of the head of that bone which especially disposes it to the invasion of disease, for here not only necrosis, but also abscess makes its attack, and here, also, the malignant affections of bone are frequently developed. This fact, to which the records of medicine

furnish a cloud of witnesses, should teach the surgeon a practical lesson in selecting his point for an amputation of the leg. There is a strong disposition on the part of the surgeon to save the knee joint to aid the use of an artificial leg, but we cannot help thinking this is misplaced kindness. All scientific manufacturers of artificial legs know that they can make a limb of this kind much more comfortable and useful when the amputation is made above the knee than when it is below it. When the tibia and fibula lose that *point d'appui*, they had in the ancle joint, their presence in the stump is a serious evil; they grind and annoy the soft parts, and give scarcely any support to the knee joint; none indeed that compensates for their presence. The weakest point in the system for the invasion of disease of the bones, in this state of things, presents additional facilities for disease. In view of all these facts, we think that amputations of the leg, should, as almost a universal rule be made above the knee.

Causes of Necrosis.—"The recognised causes of necrosis are cold, injury by violence, rheumatism, scrofula, syphilis, and fever. Some of these causes act directly on the periosteum; others on the medullary tissue; and others on the bone itself. All these tissues may be affected by inflammation in a case. Paronychia, followed by necrosis of the last bone of the finger, probably commences in inflammation of the periosteum." Of this fact, stated by Mr. Stanley, we think there can be no doubt. We do not remember any case that has come under our observation, in which the peculiar odor belonging to suppuration of bone was manifested in the first discharge from a paronychia, and in which the pus was not devoid of the usual appearance of that arising from inflammation of the osseous tissue.

In addition to the causes of necrosis mentioned above, Mr. Stanley calls attention to certain occasional agencies that come into play. Salivation is probably the most fre-

quent cause of necrosis in the lower jaw. Another of these occasional causes of necrosis, both in the upper and lower jaws is connected with the manufacture of lucifer matches. Phosphorous acid vapor is the poisonous agent in these cases. On this subject a volume of testimony has already accumulated, and the disastrous effects have been seen so often, that this necrosis assumes an important position. Why the phosphorous acid vapor acts especially on the jaw bones is a matter for investigation. At present we can give no more reason for it, than for the fact that in arsenical poisoning, from a local application to the extremities of the body, ulcerations are found in the stomach just as they are when the poison is taken directly *into* that organ.

While speaking of the agency of the phosphorous acid vapors in producing necrosis of the jaws, Mr. Stanley states some facts that are of interest upon a Western subject. We allude to the cause of milk-sickness. With a laudable solicitude for the advancement of medical science, in the mitigation or removal of human suffering, some well informed medical men have investigated the effects of arsenic upon dairy animals, under the impression that milk-sickness was caused by arsenical vapor. But the facts detailed by Mr. Stanley show that this is an error. At the copper works at Swansea, where copper is melted, arsenical fumes are evolved to such an extent as to destroy all animal and vegetable life within their influence. Cows, in that region, become disabled from disease in the bones, a fact which has never been noticed as an attendant upon the disease in those animals which were distinctly recognized as the source of milk-sickness in the human subject.

But that phosphorous acid vapor should display its poisonous energies in producing necrosis of the maxillary bones, and that arsenical fumes should direct their powers on the general osseous system, enlarging the bones,

and covering them with deposits of unhealthy osseous matter, are curious facts that need elucidation.

But we must examine now into the action of the causes of necrosis we have mentioned, especially in its attacks upon some of the small bones. The tuber ischii, or the trochanter major are destroyed with their soft coverings, in feeble systems, from inability to sustain the pressure to which the parts are subjected.

In scrofulous children, necrosis occurs in portions of bones having a cancellous texture; but in these instances the death of the bone is usually preceded by suppuration through its cells.

Syphilis produces its effects mostly on compact osseous texture, and in portions of bones which have their soft coverings, as the flat cranial bones, the front surface of the tibia, and the posterior border of the ulna, near the olecranon. Syphilitic poison produces the immediate and complete death of the surface of the bone it attacks.

Rheumatic inflammation of the periosteum is another cause of necrosis in small portions of bone. This most frequently occurs in the periosteum of the trochanter major, and adjacent parts of the neck and shaft of the femur. Here suppuration may assume a formidable state of things, by the matter bursting into the hip-joint.

Fistulous passages.—In many instances of necrosis attacking small portions of bone, it is not possible to make out satisfactorily the history of the disease, in respect to the cause of the death of the bone. The common feature, however, of all these cases should be impressed upon the mind—the existence of one or more fistulous passages in the soft parts, often circuitous in their course, the orifices of which in the integuments are often at a great distance from the piece of dead bone to which they lead.

A fistulous passage in the soft parts adjacent to dead bone, whether this be superficial or deep, is an almost unvarying occurrence. In superficial necrosis, abscess

forms in the adjacent soft parts, and the matter tracks its way to the integuments, through which it is discharged, the abscess then contracting to the fistulous passage which leads to the dead bone. In deep necrosis, implicating only the inner lamella of a bone, a fistulous passage is formed, first in the adjacent walls of the bone, and then in the soft parts covering it. This is the usual course of things, but enough departures from it have been noticed to show that we must be guarded on this point.

Symptoms of Necrosis.—When necrosis occurs in the outer lamella of a bone, it is not easily distinguishable from other inflammatory affections of periosteum or bone. The phenomena ordinarily attendant on its progress are: separation of the periosteum from the dead bone; inflammation of the periosteum, followed by suppuration beneath it, and by ulceration of it with the investing soft parts, affording outlet to the matter, and terminating in a fistulous passage leading to the dead bone.

Necrosis in the inner lamella has its characteristic signs. The first symptom, generally, is pain deep in the bone, but sometimes, fever, continuing many days or even weeks, and then subsiding, with the commencement of pain in the bone, is the first symptom. The death of the inner lamella is followed by suppuration in the adjacent cancellous texture, also by the formation of a narrow fistulous passage in its walls. While these changes are going on within the bone, inflammation arises in the soft parts covering it, accompanied by a soft circumscribed swelling of the integument, from which, when punctured or allowed to burst, matter will be discharged. Through the abscess in the soft parts, the orifice of the fistulous passages may be detected, but it may be so small as not to be found, which may lead to difficulty in determining the real nature of the disease. Mr. Hey was led to suspect an aperture in the walls of the bone from the amount of

matter discharged, being greater than the surface of the outer wound should have furnished, and Mr. Stanley says his observations have enabled him to confirm the value of the suggestion.

Necrosis of the shaft of a bone in its whole thickness, whether in a part of its length, or occupying the whole of it, presents the following features: in some instances febrile disorder precedes the death of the bone, but generally a sudden attack of pain deep in the bone is the first symptom; this is quickly followed by excessive inflammation in the soft parts, accompanied by fever. As soon as the necrosis occurs the periosteum loses its hold on the bone; and when separated from the bone, the periosteum becomes acutely inflamed. The inflammation extends through the other tissues to the integuments where it presents a phlegmonous or erysipelatous character. The terminations of this inflammation may be serous effusion, attended with mere enlargement, or in the deposit of fibrin consolidating the textures, or in suppuration beneath the periosteum, and in the intermuscular cellular tissue giving rise to one large abscess, or to many small ones in different parts of the limb. Incisions are usually required for the discharge of the matter from these abscesses; and then, unless there is an unusual source of irritation maintaining the suppuration, the quantity of matter secreted will gradually diminish, and some of these passages will be closed, whilst others remaining fistulous will lead to the cavity in which the dead bone is enclosed.

Necrosis in the shaft of a bone, through the circumference and thickness of its walls, is usually accompanied with the death of its medullary tissue to a corresponding extent. But there are instances of necrosis arising only on the surface of the bone, in which the walls of the bone perish, while the medullary tissue preserves its vitality.

Necrosis of the shaft of a bone near its articular end is often followed by the extension of inflammation to the

adjacent joint: thus, disease in the knee-joint has ensued from a necrosis either in the femur or tibia near its articular end. And destruction of a joint may occur from necrosis, by the abscess in the soft parts around the dead bone, bursting into the joint. Attention should be directed to these cases. Amputations have been performed for diseases of the joints, and they might have been avoided if it had been known that a small piece of loose bone, imprisoned within the living bone, was near the joint, and could be removed, by which the limb might have been saved.

When the necrosis is of small size, or only a small part of the bone has perished in a patient who is not of an irritable habit, the inflammation in the soft parts is apt to be of a mild character.

Necrosis of a part of the cancellous texture within the articular end of a bone is a formidable disease, as it often destroys the adjacent joint. This necrosis most frequently occurs in the head of the tibia, in persons between the ages of fifteen and twenty years, often without appreciable cause, but most frequently from a blow upon the knee. The great danger here, arises from the inflammation being in the neighborhood of the joint. This point is so important, that instead of giving a mere synopsis of Mr. Stanley's observations, as we have been doing, we shall in this case give way to a quotation from him. He says: "The dead portion of the cancellous texture within the head of the tibia is rarely as large as a hazle nut; its situation varies, being nearer to the front or back wall of the bone, or to its upper articular surface, in one case than in another. The separation of the dead from the living bone usually takes place in an early stage of the disease. The piece of dead bone is then loose in a suppurating cavity, lined by a thick and very vascular membrane, from which pus is secreted more or less abundantly, according to the degree of excitement in the surround-

ing parts. The dead bone, being an irritant, excites constant pain, with successive attacks of inflammation, in the adjacent living bone; also in its periosteum and in the knee-joint. Consequently, the surrounding cancellous texture becomes hardened, and narrow ulcerated passages, which become fistulous, extend in various directions through the hardened bone to the front or back wall of the tibia, or towards its upper articular surface. If these ulcerated passages extend through the wall of the bone to its periosteum, matter will then accumulate beneath the periosteum, or ulceration of the periosteum will ensue, permitting the extension of the abscess into the surrounding soft parts. If one of the ulcerated passages in the bone should extend upwards to its articular surface, and then open into the knee joint, rapidly destructive inflammation of it will ensue. During the progress of the disease, the periosteum investing the head of the tibia and the cellular tissue around it, become thickened and indurated, thus giving to the bone the appearance of actual enlargement."

We resume the consideration of the progressive steps of necrosis.

The term exfoliation applies to that process in bone, which we call sloughing in the soft parts. In both cases, a soft vascular tissue marks the line of separation between the living and dead parts. The granulations in necrosis fit, or are dowelled into small circular holes on the surface of the dead bone. John Hunter investigated the subject of exfoliation as a vital process, and recent investigations with the microscope, have confirmed his observations in a remarkable manner. Chemistry has presented its aid, and it is an important one. Through that aid, we have ascertained the fact that pus discharged from the vicinity of exfoliating bone has in it a large proportion of phosphate of lime. Pus of this kind was found to yield 2.43 per cent. of phosphate of lime, and 2.08 per cent. of

carbonate of lime and soda. Thus in the pus from parts around diseased bone, the phosphate of lime amounted to nearly two and a half per cent., while in pus elsewhere obtained, only traces of phosphate of lime were discovered.

Mode of Removal of Dead Bone.—There are instances in which dead bone disappears without any sensible exfoliation of it. Mr. Hunter's doctrines induced the supposition that this disappearance, under these circumstances, was the result of the action of the absorbent vessels in the granulations adjacent to the dead bone. On the other hand, it is denied that dead bone is ever absorbed into the system. Miescher has made some observations that seem to disprove the fact of absorption. He has shown that there is a process of exfoliation, in which the dead bone is detached in particles so minute as not to be detected by the unaided sight, and which, therefore, has been termed insensible exfoliation. This view accords with the well ascertained fact of there being a larger quantity of the earthy salts of bone in pus obtained from the neighborhood of exfoliating bone, than in pus made under other circumstances.

Mr. Stanley thinks that when the dead bone is extruded from the cavity in which it was lodged, the process is effected by the pressure of the surrounding granulations against the bone. This extension does not always occur, either in consequence of the size of the dead bone, or from its being enclosed within a tube of the newly formed bone. The next question is whether the exfoliating bone remaining within this cavity, can be acted upon and removed by the adjacent living bone. Sir William Blizzard thought he obtained proof of a removing power in the living bone, but his experiments have been repeated often without the results he claimed, and Mr. Stanley's facts, and Mr. Gulliver's memoir on the subject conclusively show that no power is exerted by the living bone

for the removal of the dead one, and wholly disprove the absorption of it. Enfoliated dead bone may acquire adhesion to the living bone: Miesher observed the granulations of the adjacent living bone penetrating the medullary canals of the dead bone.

Exfoliation is variable in respect to the rapidity of its progress, and neither age nor health gives any data on which to found an idea of the time that may be occupied in the process. It commences sometimes and stops without any apparent cause, and sometimes the separation of the dead bone never commences.

Having thus surveyed, through Mr. Stanley's excellent work, the various phenomena that accompany the death of bone, we now turn to the more gratifying contemplation of the efforts of nature at reparation. There is nothing more grateful to the feelings in examining the diseases of the animal economy than a contemplation of these reparative processes, and while following our enlightened guide in these processes, we cannot but regret that one, who has done so much for this whole subject should have failed in any point, and especially in one where the cause of the failure is not altogether obvious. When we reach that point we shall call the attention of the reader to it. We proceed now to consider the reparative processes.

Mr. Stanley says: "If only part of a bone has perished, its remaining portion and the surrounding soft parts become inflamed, and the changes which ensue in these parts constitute the first stage in the process of reproduction. Through its subsequent stages this process is diversely modified, according to the situation and extent of the dead bone, and by other circumstances hereafter to be stated."

"Necrosis in the outer lamella of a bone, when accompanied by destruction of its coverings, including the periosteum, gives rise to the following changes—thickening

and consolidation of the inner lamella of the bone, inflammation of the surrounding periosteum, occasioning osseous deposit beneath the membrane, and in its tissue; and in this way the dead bone becomes circumscribed by a thick projecting border of new osseous substance. In the instances which I have examined, the depression in the surface of a bone, consequent on the exfoliation of its outer lamella, was found filled with fibrous tissue. But in the experiments of Miescher, it appeared that reproduction of the exfoliated outer lamella was effected by ossification of the granulations filling the space between the dead and living bone."

Hunter's experiments on these points were unsatisfactory, because he took pains to do as little injury as possible to the soft parts.

Can the osseous matter of the outer lamella be reproduced without the periosteum? Experiments upon animals show that it can, but Mr. Stanley says, and we believe correctly, "it is doubtful whether in the human subject, the reproductive power of the tissue of bone is adequate to the formation of so great an extent of new bone," (as is required for a shaft of bone). "In the human subject the reproduction of the outer lamella of a bone can probably be but imperfectly, if at all, effected without the aid of the periosteum."

In some cases the reproduction of bone is effected chiefly by the medullary tissue. If the periosteum and medullary tissue are both preserved, in necrosis of the walls of a bone, the reproduction will chiefly ensue from the periosteum.. "When necrosis attacks the inner lamella of a bone, without extending to its medullary and cancellous tissue, the reparative processes which, under favorable circumstances, may ensue, consist in the consolidation, by osseous deposit, of the medullary tissue, in the thickening and induration of the outer lamella, and in

the deposit of osseous substance upon the surface of the bone, beneath the periosteum."

In necrosis of the entire thickness and circumference of the shaft of a bone, through a part or whole of its length, we have to consider four distinct sources of reproduction which may severally be concerned in the formation of the new bone: "these are—1, the periosteum; 2, portions of the original bone detached from its surface and remaining connected with the periosteum; 3, the articular ends of the original bone; 4, the soft tissues around the periosteum, or around the bone if the periosteum has been destroyed. The power of the periosteum for ossification seems to be based on irrefragable evidence. On this point Mr. Stanley says:

"The Italian pathologist, Troja, was, I believe, the first to institute this experiment. I have many times repeated it in dogs, and have thus had the opportunity of observing the phenomena of the reproductive process, which are here enumerated in the order of their occurrence:—inflammation of the periosteum, deposit of purulent fluid between the periosteum and the bone, deposit of gelatinous substance upon the inner surface of the periosteum, hardening and ossification of this gelatinous substance, separation of the dead shaft of the bone from its articular ends, and, lastly, the production of osseous substance from the articular ends, which becoming united with the new bone formed upon the internal surface of the periosteum, the osseous cylinder is thereby completed, and its continuity with the articular ends of the original bone established. Accordingly, in the first stage of the reproductive process, the periosteum is found soft and pulpy, from inflammation of its tissue, and consolidated with the surrounding parts, so as to form with them a vascular bed enclosing the dead bone. Upon the inside of this vascular bed, the new bone is formed. The new bone is lined by a layer of soft and very vascular tissue,

which becomes the medullary membrane, with which, under favorable circumstances, the new bone is provided. Dr. Macdonald instituted similar experiments; but, immediately after causing necrosis of the shaft of a bone, he mixed madder with the food of the animal: and on examing the parts three days afterwards, he found the periosteum thickened, with a deposit of gelatinous substance upon its inner surface, in which there were osseous particles tinged by the coloring matter of the madder."

Of the opposite view, the adherence of bone to the periosteum, as the reproducing power, we shall, at present, say nothing.

"Two other sources of reproduction in necrosis of the shaft of a bone are yet to be noticed; namely, the articular ends of the bone, and the surrounding soft parts independently of the periosteum."

New osseous substance is produced from the articular ends of the original bone, but it is only in sufficient quantities to make their union with the newly formed shaft of the bone. That the soft tissues can become the reproductive power of bone, even when the periosteum, with its nuclei of ossification is destroyed, is evident from carefully arranged facts presented by Mr. Stanley and from the experiments of Mr. Russell, of Edinburgh, and of Dr. Macdonald. The circumstances favorable to this mode of reproduction are, that around the dead bone there should be a thick stratum of soft parts, and that the inflammation shall be mild enough to terminate in the effusion of serum or fibrin, rather than suppuration.

When a bone is reproduced by the periosteum, that membrane encloses it, but where the periosteum of the original bone is destroyed, the new bone has for its immediate investment a thick layer of dense cellular tissue, which answers all the purposes of the periosteum. The new bone possesses the entire apparatus of nutrition, ar-

teries, veins, absorbents and nerves. The compensating powers of nature are very wonderful.

The following facts mentioned by Mr. Stanley are of importance, and will be urged again when we come to speak of the bandage. There is a period in these reparative processes, when the articular ends of the original bone are detached from it, but not yet so firmly connected with the newly formed bone as to resist the action of the surrounding muscles. If these articular ends are suffered to approximate, under these circumstances, and permitted to remain so, the new bone will be defective in its proper length. In some instances this deficiency has been to the extent of several inches. But worse still—a spasmodic action of the muscles around the separated shaft of the bone may force its pointed extremity into a contiguous joint, or into a large bloodvessel. Such accidents have happened, but they are impossible when the bandage is properly used.

"The cases of necrosis most favorable for the reproductive process, are those in which the bone suddenly, and at once, completely perishes, and in which there has been no interference with the consequent inflammation in the periosteum and surrounding parts, constituting the first stage of the reproductive process."

"Reproduction after necrosis in any of the flat bones is rare, in some of them it never occurs. It is doubtful whether any of the short, cylindrical, or irregularly shaped bones are ever reproduced."

"Instances of necrosis in early life have occurred, wherein a small portion of the dead bone, not separated from the living bone, has remained unchanged for many years, and the fistulous passages in the soft parts leading to it have become closed. * * * After a lapse of time, it may be a year or longer, a fresh attack of inflammation, followed by abscess, and the re-opening of the fistulous passages, has shown that the original

source of irritation still existed. As long as the dead bone irritates the adjacent parts into suppuration, the fistulous passages remain open. But a small portion of dead bone may not irritate, and the fistulous passages may close up.

The following list of the least frequent examples of necrosis is given by Mr. Stanley:

Lower Jaw, in a girl aged ten years. The reproduction was perfect. Separation of the ramus with the entire condyle. Perfect reproduction.

Scapula. Chopart reports the reproduction of this bone.

Clavicle. The entire bone was destroyed by necrosis, and a complete reproduction took place. Two cases are reported of this character.

Sternum. Necrosis of a great part of this bone, in which reproduction was in progress.

Femur, necrosis and exfoliation of the neck with the shaft of the femur in a child. The recovery was perfect, with but little shortening of the limb.

Fibula, necrosis of the shaft; reproduction perfect.

The three last instances are from the museum of St. Bartholomew's Hospital, First series, Nos. 63, 204, 158.

We intended to extend the list of reproduction of bones but our waning space prohibits the fulfilment of the intention.

We have now reached Mr. Stanley's observations on the *treatment of necrosis*, and though we must be succinct in this part of our analysis, we shall endeavor to omit no material feature.

The treatment of superficial necrosis divides itself into two considerations: Can we accelerate the exfoliation of the dead bone? or, shall it be removed by operation?

As a general rule the best applications to the soft parts around dead bone are those of a soothing nature. Stimulating applications, of a moderate character are some-

times useful in producing a sufficient excitement to bring about exfoliation, and mercurial ointment, mixed with soap cerate, is recommended by Mr. Stanley. Exercise of the muscles of the limb, in which the necrosis is situated, is another means of expediting exfoliation. The observations of Mr. Stanley have not induced him to favor the application of acids to the bone, except in some cases of superficial necrosis. He very properly prefers muriatic acid to the sulphuric. The latter makes sulphate of lime, which is injurious.

The removal of the dead bone by operation is inexpedient where a superficial necrosis occurs in bones with a thin covering, and if, after a considerable time, the exfoliation is not advancing. The extent to which the surface of the bone has perished, is indicated by the extent of the separation of the soft parts from it, but this gives no index as to the depth of the necrosis.

"In internal and deeply situated necrosis, when a probe, passed through the fistulous passage in the walls of the bone, discovers the dead bone to be loose, the removal by operation is expedient, and this may be the case even when the dead bone is not completely separated."

If the fistulous passage in the walls of a bone leading to the perished portion of its inner lamella or cancellous texture, is of sufficient extent, the dead bone may be extracted through it. The enlargement of the passage is usually requisite, but it is difficult to do it, on account of the long-continued irritation of an internal sequestrum having thickened and indurated the walls of the bone.

In superficial necrosis, the first thing to be done is the division and separation of the soft parts sufficiently to effect the removal of the dead bone.

In internal necrosis, the hole already existing in the walls of the bone should be the centre of the incision through the soft parts, the requisite portion of the walls

being removed by a trephine or other suitable instrument. No more of the wall should be removed than is sufficient to allow the removal of the sequestrum. An aperture of no great size may be sufficient for the removal of a large sequestrum, provided it be conveniently situated for cutting forceps. Heuteloup's stone-crushing forceps, and Civiale's branched stone-perforator have been used with advantage for breaking down the sequestrum.

In necrosis of the shaft of a bone, in its first stage, the treatment must be directed to the control of the inflammation in the surrounding soft parts. The effusion of serum or fibrin is preferable to suppuration, and the inflammation should be confined to the neighborhood of the dead bone, and especial care must be taken that it shall not extend to any of the contiguous joints. Mr. Stanley recommends quietude, the local abstraction of blood from the parts by leeches, and it may be necessary to give saline and antimonial medicines. Poultices and fomentations are also recommended. Although it has been lately uttered to the world that inasmuch as "none but a great poet can criticise a great poet," and this fresh and valuable literary discovery is made the basis of the law, that none but one thoroughly acquainted with surgery must criticise surgical doctrines and practice, we must beg leave to suggest from experience, that quietude, and the proper use of the bandage are worth all the rest of Mr. Stanley's treatment, for the object in view.

If suppuration takes place, and it is generally indicated by shiverings, free incisions must be conveniently made for the escape of matter.

"If there should be constant pain deep in the limb, with occasional attacks of inflammation in the surrounding parts, counter irritation, by an issue, is then indicated —and it may be required as long as the dead bone remains.

The next question is upon the circumstances that make

it expedient to resort to an operation for the removal of the dead bone.

When the shaft of the bone is separated from its articular extremities, the formation of the new bone is, in general, so far advanced that the dead bone is enclosed in an osseous case. Absorption was formerly relied upon, for the removal of the dead bone, but since it has been shown that the absorption of exfoliated bone is not a tenable doctrine, the consideration of a resort to an operation is important. An operation should be deferred until there is an assurance that the dead bone is loose. The exfoliated bone may be fixed by the surrounding granulations being imbedded in the excavations of its surface.—Dupuytren advises that with the end of one probe resting against the dead bone, a second probe be introduced into another of the fistulous passages, and its end pressed against the dead bone: if there be mobility, it will make itself evident by the impressions communicated through the probe first introduced. Care must be taken in making incisions through the indurated parts, and as little of the walls of the new bone as possible must be removed.

Necrosis of the cancellous texture of the head of the tibia may demand an operation. This should be resorted to as early as may be practicable, because the knee-joint is in danger. But difficulties may arise. The piece of dead bone may be so near the upper articular surface, that its removal would not be practicable without opening the joint. And it is often impossible to decide upon the precise locality of the dead bone. If the knee-joint should be suffering seriously, amputation may be better than an uncertain operation on the head of the tibia.

Among the long bones, operations for the extraction of dead parts of the shaft, are in general performed with the least difficulty upon the tibia. The operation is usually undertaken before the new bone is completely form-

ed, and it be necessary to separate only some narrow, bridge-like portions of the new bone.

Operations are required in the humerus occasionally, for the removal of dead and exfoliated portions of its shaft, but it is unnecessary for us to describe what must be already understood by our readers.

In necrosis of the lower part of the femur, just above the condyles, we meet with great difficulties. The thickening and consolidation of the soft parts around the bone, the changes in the bone itself, the inflammation of the knee-joint, the danger of wounding the femoral vessels in attempting to use the fistulous passages as guides for incisions to the dead bone, constitute a state of case where amputation may be a less evil, than an attempt to remove the dead bone.

We referred to one point in which Mr. Stanley had failed in his observations on necrosis. He very strangely says that in necrosis of the first and second phalanx of a finger, or of the ungual phalanx, the soft parts should be opened, and the dead bone removed, but that *the bone will not be reproduced.* We cannot conceive a reason for such a statement. All the conditions of reproduction are present—we have periosteum, an articulatory end of bone, and a sufficiency of soft parts, and why is it, that while from the presence of any one of these sources of reproduction elsewhere, we might reasonably look for reparative action, we must not expect it in a case where all three are present? In cases of this kind emollient poultices are generally recommended, after the removal of the dead bone, and a suppurative action is established, which defeats the reparative process. The application of the bandage to the finger or toe, so as to limit the inflammation to a regenerative power, will reproduce bone in these cases, as certainly as it is reproduced in any other part of the system. We speak from a tolerably ample experience, when we say we have never failed to reproduce

bone in the phalanges of the fingers. In applying the bandage we must be careful that in the attempt to reproduce bone, we do not make the finger too long nor too short. A little care will secure all the desired benefits.

We have thus moved with Mr. Stanley through the whole of the subject of necrosis, and have found the occupation a pleasant one. Our companion is one of those practical and useful investigators who advance the interests of a profession which is identical with the interests of humanity. He has illustrated the various principles, observations and facts we have quoted from him, by a multitude of interesting cases, which demand the study of the physician.

We have many more valuable things to present our readers from Mr. Stanley's work, but we must defer the pleasure to another time. But we beg leave to call the attention of Messrs. Lea & Blanchard to the necessity they should feel for publishing Mr. Stanley's plates, twenty-four in number, as an accompaniment to this work.—The medical public in this country will feel indebted to them for a publication of such value. Indeed, without it, Stanley on Diseases of the Bones will be what Malte Brun's geography would be without an atlas.

ART. VI.—*The Three Kinds of Cod-Liver Oil; comparatively considered, with reference to their chemical and therapeutic properties.* By L. J. DE JONGH, M. D., of the Hague. Translated from the German, with appendix and cases, by EDWARD CAREY, M. D. To which is added an article on the subject from "Dunglison on New Remedies." Philadelphia: Lea & Blanchard.

Dr. Jongh has investigated the chemical and therapeutic properties of the different kinds of cod-liver oil with a great deal of patience, skill and judgment; much more, indeed, than are usually brought to bear on such

subjects. We wish that we could feel the same degree of confidence in Dr. Jongh's testimony to the therapeutic properties of the three kinds of cod-liver oil, that we do in his chemical evidence. The researches of the laboratory may be more accurate, unvarying and satisfactory than the reports of the success of a popular medicine in various forms of disease. But while we must hold many of the statements of Dr. Jongh on the therapeutic value of cod-liver oil, *sub judice*, we feel it incumbent on us to let our readers know what he says. We shall not, however, attempt to carry them a wearisome journey through the chemical paths of the subject, but shall confine our notice to the diseases said to have been cured by the cod-liver oil. These are the details most likely to interest our readers.

Cod-liver oil was known, as a medicine, to Dr. Percival as early as 1771. It was then used for chronic rheumatism. From that time, down to 1822, occasional notices of it occur, but Schenk, who published his report of sixteen cases of rheumatism, cured by this remedy, enjoys the honor of having brought the subject fairly before medical men. In 1826, Schenk reported twenty other cases, which excited much attention. From his observation and experience, he believed the cod-liver oil as much a specific in rheumatism, as quinine is in ague, or mercury in syphilis. From the time of Schenk's publications, down to the present time, hosts of medical men have borne strong testimony to the remedial powers of cod-liver oil. The best effects, after the failure of all other remedies in many cases, are reported in the following forms of disease: rickets, scrofulous caries, fungus articularis in a scrofulous diathesis, rheumatic palsy, pædarthrocace, scrofulous abscess, with extreme emaciation, exostosis with a scrofulous taint, sciatica, and coxalgia. In 1833, Hankel discovered its virtues in tuberculous phthisis, and a great deal of proof has accumulated since,

in favor of the employment of the remedy in this disease. Cardialgia and hemicrania of a rheumatic character, we suppose, were relieved by the cod-liver oil, after they had resisted all other remedies. In herpes, and scrofulous eruptions generally, this medicine was found efficacious. Smeet says that a combination of cod-liver oil and hydriodate of potash, renders all other medicine superfluous in confirmed tubercular consumption.

A great deal of evidence is brought forward to show the vast superiority of cod-liver oil over all other remedies in rheumatic and scrofulous disease. In scrofulous ulcers, used externally, this oil is said to have shown great restorative power. In osteo malacia, carious scrofulosa, and caries of the femur, its powers were very satisfactorily witnessed by many physicians. In tumor albus, an affection involving the ligaments, cartilages, and bones of joints, the reports are very favorable to the use of the cod-liver oil. It is also supposed to exert a beneficial influence over leucorrhea and amenorrhea.

The use of this medicine should be discontinued if indigestion, hemorrhage, or diarrhea should come on during the administration of it.

From an examination of a number of tables carefully prepared, and remarkably well reported, in order to settle the question as to which is the best oil for remedial purposes, it is evident that the brown cod-liver oil cured in half the time required under the use of the other two kinds.

The doses of cod-liver oil for children should be from one to two teaspoonfuls two or three times a day. Adults may begin on tablespoonful doses three times a day, and these may be increased to eight or ten tablespoonfuls a day.

It is difficult to disguise the taste. Peppermint produces eructations which renew the taste of the oil. The medicine should be taken after a full meal, and a little

Madeira wine, taken immediately after the oil, assists materially in making it palatable. Various formulas are reported for giving this oil, but each physician may easily make a preparation for himself. We shall not, therefore, encumber our pages with a republication of any of the formulas given.

We have no doubt that in many of the forms of disease of the bone, which we discussed in the December number of this Journal, and the consideration of which is renewed in this number, in an analysis of Mr. Stanley's work, the cod-liver oil will prove a valuable remedy. In a portion of Mr. Stanley's work, held over for future analysis, that gentleman bears strong testimony to the virtues of cod-liver oil.

We thank Dr. Carey for having introduced the labors of Dr. Jongh to the acquaintance of American physicians, and we indulge the hope that these labors will prove to be valuable.

THE WESTERN JOURNAL.

THIRD SERIES.—VOL. V.—No. I.

LOUISVILLE, JANUARY 1, 1850.

CUI BONO?

The readers of the November number of this Journal will remember that we made some editorial remarks on the subject of the surgical papers of Professor B. W. Dudley. The spirit of those remarks has been misconstrued in the December number of the Transylvania Journal of Medicine, and this misconstruction is made the basis of a violent personal attack upon one of the editors of this Journal. We shall imitate neither the spirit, temper, taste, nor language of this singular article, but we owe it to ourself to say something on the misrepresentation to which we have been subjected. The article to which we allude, represents that we have done some wrong or injustice to Professor B. W. Dudley, but we hold that we are as incapable of doing anything of the kind, as the editor of the Transylvania Journal can be, and this opinion is founded on years of admiration of, and affection for that distinguished personage as a surgeon, teacher, and gentleman. We have no motive to do him wrong, and it would require a more powerful one than we have ever yet felt, to induce such an act. The feelings of veneration, gratitude, and esteem we formed for the Professor many years ago, founded on an intimate knowledge of his character, have undergone no change, and we have some hope that they are immutable.—But it is due to freedom of opinion, to liberty of speech itself, to say

that we are not aware of anything, in the way of position, eminence, age or talent, that places a man beyond the reach of fair and manly criticism, especially when personal regard guides the pen. In the article which has aroused the temper of the Transylvania Journal, we thought we did justice to the eminent character of Professor Dudley as a teacher and surgeon, and did not for a moment suppose that we were committing a heinous offence. What we had to say was expressed in anythiug but offensive terms; we intended to be decorous and respectful, and we are well satisfied that we did not pass beyond the limits of our intentions.

There was, in our estimation, an indifferent foundation for the assault made upon us, and self-respect prompts us to be careful that we do not build a similar superstructure on a similar basis. We are certain that we do not misapprehend the tastes or interests of the subscribers to this Journal, in supposing that they would be disgusted with personal maledictions, and squabbling on the pages of a work devoted to medical science.

We had hoped for a pleasant intercourse with the Transylvania Journal; we hoped that differences of judgment and opinion would be expressed in terms of professional courtesy, and that the only competition between the two Journals would be found in an endeavor to advance medical science. These hopes have been dissipated, and as we have no kind of desire to maintain such an intercourse as the Transylvania Journal has indicated, we must decline for the future any connection with that Journal.

PROFESSOR BARTLETT'S ADDRESS.

The beautiful and appropriate tribute rendered to Dr. Wells, author of the "Essay on Dew," by Prof. Bartlett, cannot fail to please those who are fond of all that is excellent and becoming in the human character. The English language boasts of no philosophical treatise more perfect in all its details, than the "Essay on Dew," and there are few Americans who read the tributes of admiration, bestowed in European scientific works on that celebrated essay, who are aware of the fact that its author was an American. He studied medicine under the accomplished Dr. Garden, a physician, a scholar, and philosopher. Dr. G. was a favorite of the great Linnæus, and the fragrant plants, called Cape Jessamines, were named Gardenia radicans and grandiflora, in his hon-

or. While breathing the rich perfumes of these flowers, which exhale their sweetness in great power, when the dew is on them, how little did he expect that his young student was to lift t e veil, and explain, with perfectness, the whole of those phenomena, which the master had often looked upon through the eyes of Nature's great interpreter, when he says:

> "And that same dew, which sometime on the buds
> Was wont to swell like round and orient pearls,
> Stood now within the pre.ty flow'ret's eyes."

Dr. Wells is worthy of a noble tribute, and his memory and character have receiv.d it at the hands of Professor Bartlett.

THE BANDAGE IN ITS APPLICATION TO FRACTURES, ETC.

In our notice of Dr. Stone we promised an essay on the bandage, and it was prepared for this number, but we have been compelled to postpone its publication until February.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN, BY D. FRANCIS CONDIE, M. D. THIRD EDITION, REVISED AND AUGMENTED. LEA & BLANCHARD. 1850.

We are glad to see that the merits of this valuable work which we noticed at length on the publication of the first edition, have been so correctly appreciated, that a new edition, revised and augmented, has been prepared to meet the demand. The work is one of much ability, and is worthy of the confidence of the profession, and as such we commend it to their attention.

THE REVIEWER OF PROFESSOR DUDLEY'S SURGICAL ESSAYS.

We are compelled to defer the response to the editor of the Transylvania Journal of Medicine, by the reviewer of Professor Dudley's essay on aneurism, whose review appeared in the November number of this Journal. This response shall appear in our next number.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

FEBRUARY, 1850.

ART. I.—*The Bandage in the Treatment of Fractures, Ulcers, Gun-Shot Wounds, Hemorrhage, &c., &c.* By THEODORE S. BELL, M. D., of Louisville, Ky.

In a former number of this Journal we examined, very briefly, a paper by Dr. Stone, surgeon to Bellevue Hospital, New York, on the subject of amputations, gun-shot wounds, &c. The laudable spirit manifested by Dr. Stone in his careful endeavor to ascertain the best and most successful methods of treatment, for certain forms of injury that require the aid of surgical science and art, commanded our admiration and respect. Experience and observation have taught us a better resource of surgical art than that which he commends, but his efforts at improvement upon the common methods are worthy of praise.

In order to forward the attempt to find the best resources of surgical art, we purpose to examine the use of the roller, in its application to various diseases and injuries. Why it should be neglected to the extent that it is, we cannot conceive. Some of the highest authorities in surgery have spoken in the strongest terms of it, have fully explained the principles of its action, and borne testimony to its great merits. These same authorities have carefully laid down rules for procuring the requisite pressure, and taught us how to apply the roller. And the experience and observation of every man who understands the science of the roller, and applies it properly, must give assurance that while, in all cases where it may be used, it can accomplish all the useful results of other agents, it can claim, as its own right, benefits not to be acquired through any other agency. But it is strange that an agent recommended by such a surgical authority as John Bell, and enforced, as it was by him, with a clear appreciation and explanation of its multifarious powers, and which has surely never failed yet, in the hands of a surgeon capable of using it properly; it is strange, we repeat, that it should have commanded so little respect in great works on surgery. Dr. Cutler, a staff-surgeon in the Belgian army, undertook some time ago to prepare what he called "The Surgeon's Practical Guide in Dressing, and in the Methodic Application of Bandages." He said, in the prefatory remarks to his work, that "a manual, calculated to improve a department of surgery which unfortunately has been too long neglected in this country, and spare the practitioner the sacrifice of much valuable time, cannot but be deemed a great desideratum." We hoped for much from this introduction, but found that "the promise had been held to the ear, and broken to the hope." The object of the author seems to have been to crowd his work with a mass of contrivances, based on no sound principle, and to adorn his pages with a variety

of wood cuts. Less than half the space occupied by his details would have sufficed to give a clear and scientific account of the bandage, which might have justly entitled the work to be called the "Surgeon's Practical Guide." We have the simple roller cut up, on Dr. Cutler's pages, into the circular, spiral, reversed, uniting, dividing, compressing, expelling and retaining bandage, with but little practical matter on the subject. These various forms are adapted, according to Dr. Cutler, "to incised wounds, burns and wounds attended with great loss of substance, for preventing the formation of seams or unsightly cicatrices; sprains, edematous swellings, callous ulcers, varices, aneurisms, erectile tumors, ordinary ulcers, deep-seated abscesses, contused wounds, prevention of the formation of sinuses, fractures, dislocations, &c." It is strange that Dr. Cutler did not give the philosophy of the action of an agent in surgery, capable of the extensive application and utility he ascribes to the bandage. John Bell, and Dr. Baynton and Mr. Whately had pointed out the path of this philosophy so clearly that it should have been easily followed, in preparing "The Surgical Guide," in "the methodic application of bandages." Dr. Cutler seems to have caught a glimpse of the light blazing around him; he says: "a bandage is useless which does not give most perfect support to the parts, maintain them in the position necessary to ensure the fulfilment of the indication proposed, and exert on the member an equable compression: for this, they require sometimes to be moistened, which will occasion them to sit more firmly. When applied too tight, or when the compression is not uniform, very serious consequences arise, such as edematous swellings, and even mortification, &c." Of the value of quietude in a reparative process, Dr. Cutler seems to have clear ideas, yet he cannot divest himself of those follies that are in vogue, such as the application of medicated liquids, oils, ointments, escharotics, &c., in connection

with the bandage treatment. We hope to be able to show that the surgeon who is familiar with the principles of the bandage treatment, and who understands its application, may rid himself and his patients of a mass of the useless "sovereign'st things" that cumber the pages of surgical works.

In order to show that we do not place an over-estimate upon the bandage, we quote Dr. Cutler's testimony to its value, even with his limited and often erroneous views of its use. He says:

"In the department of surgery, which constitutes the subject of the present work, more perhaps than any other, is the practitioner's reputation exposed to the severity of criticism; and on the degree of knowledge and dexterity which he evinces in this, to be attested by the greater or less acuteness of the patient's sufferings, the duration of the treatment, and the issue of the case, will be found to depend the favorable or unfavorable general opinion of his talents: the majority of people can only appreciate what is palpable to the senses in the practice of the healing art, and therefore it is not surprising that they exercise their privilege of criticism to its utmost limits here."

That these considerations should have some weight with the surgeon, provided the patient does not suffer, while the surgeon is furthering his own glorification, may be admitted; but they should be of minor concern when compared with that important matter—the selection of the best means for the case in hand. We are confident that the bandage, for support and compression, is infinitely before all other methods of treatment, in a great range of surgery, and if it is so, that constitutes the valid reason for its use. It requires study, practice and judgment, but no one who resorts to those means of perfecting himself, will ever feel that he has wasted means that belong to a noble art.

The experience we have enjoyed in the practice of the

bandage, often makes us feel a sense of humiliation in reading the works of the great masters of surgical science and art. Take, for example, one of the master minds of modern surgery—the Baron Larrey, a gentleman who enjoyed opportunities for improving his art, such as few ever possessed. He was the pupil of Sabattier; he accompanied Napoleon in the Egyptian campaign, and was a favorite of that illustrious man in all his succeeding campaigns. For his excellent services, he was made a Baron, after the battle of Wagram, and enjoyed the unlimited confidence not only of Napoleon, but of the soldiery. Of his eminent abilities as a surgeon, and of his virtues as a man, no one can entertain a more exalted opinion than we do; yet, it seems to us that a more empirical practice than that commanded by Larrey, at Dresden, for the ulcerations arising from congelation, among the victims to Napoleon's disastrous retreat from Moscow, could not have been adopted. The obvious demands of these cases were something of a supporting character, applied to the part suffering from congelation, not only to re-invigorate it, but to stop the ravages of decay. There is nothing in the hands of surgery that can compare to the bandage for the fulfilment of these palpable indications; in a long experience of its powers in this respect, we know of nothing that can offer such gratifying results, in the treatment of ulcerations of this character, as the simple roller. Yet, in the circular addressed from Koningsberg, by Baron Larrey, surgeon-in-chief to the Imperial army, to Mr. Bancel, we find the following language: "Indeed, parts disorganized by caustics, or by cold, form a gangrenous eschar of greater or less thickness, the removal of which it is necessary to promote by topical applications, *supporting the action of parts that remain sound, and at the same time softening the parts laboring under gangrene.*"

A long time prior to this, Underwood had insisted upon

the important uses of the bandage in the treatment of ulcers, and Whately and Baynton, in 1799, had triumphantly established the immense superiority of the roller over every other method of care that had ever been attempted. To these gentlemen the medical profession is deeply indebted for the great improvements introduced by them, into the treatment of ulcers. If Baron Larrey had impressed upon his staff the principles laid down by Dr. Baynton, he would have found in a calico roller, and strips of adhesive plaster, more virtue in the treatment of the ulcers resulting from congelation, than in all the storax and saffron ointment, and charpie, that could have been manufactured in France. If the unrelenting Berlin and Milan decrees, in their war upon English manufactures, deprived the "grand army" of the benefits of the bandage in the treatment of its wounds, we may look upon their action as an illustration of the rattlesnake inflicting its own venom upon itself. The adhesive strip and roller would have saved many a limb that was destroyed by gangrene, and many a life that was undermined by the same disaster. There is nothing, whatever, that so effectually strengthens the debilitated sub-systems, concerned in gangrene, and so perfectly secures reparative secretions, instead of gangrenous fluids, as the bandage. We have seen enough of the display of its powers to make us think that its failure is almost impossible, and we have often seen it succeed after all other means had failed.

In looking at the cartloads of lotions, unguents, poultices and *appareil* commended by the masters of surgical art, for the management of those cases, for which the plainest dictates of common sense would resort to the bandage, and then turning to the impressive eloquence of John Bell on the benefits of the roller, we are surprised that that agent ever lost its merited position in surgery. What a commentary upon apothecarean and culina-

ry surgery does one statement of John Bell make! He says: "In a diseased bursa, as in a relaxation of the knee-joint, that disease which with but a little indulgence, a very little encouragement of fomentations, poultices, bleeding, low diet, would end in white-swelling of the knee, may be stopped even by so simple a matter as a well rolled bandage." This truth, of the supporting and regulating influence of the bandage, may be made to assume a comprehensive position towards an extensive class of surgical cases, wherein the miserable contrivances, mentioned by John Bell, are used with the disastrous results referred to in diseases of the knee-joint.

We know of no author who has prescribed the bandage with more scientific knowledge than John Bell. He often loses sight of his own truths, but this does not destroy his truths. His enlarged understanding surveyed the whole field of vision, and pointed out the most successful methods. The opinion, for instance, is entertained among a few surgeons, who have lost sight of John Hunter's accurate observations, that a gun-shot wound must slough throughout the track of the ball, but those who use the bandage, properly, know that this is not necessarily true. On this point, John Bell says: "It is particularly to be observed, that, in gun-shot wounds, and other bruised wounds, though it would be imprudent to sew the parts, since it is impossible they should altogether unite, *yet the gentle and general support which we give by a compress and bandage, prevents them from separating far from each other, unites the deep parts early, and lessens the extent of that surface which must necessarily fall into suppuration.*" In this extract, the great principle of the bandage is developed, in that kind of surgery to which it is generally considered most inapplicable. But under the influence of the bandage, we have seen gun-shot wounds heal by the first intention. We once succeeded in producing this result in a case where the ball

entered the skin over the symphysis pubis, passed around one-half of the pelvic wall, and came out through the skin covering the lumbar vertebra.

The power of the bandage in the suppression of hemorrhage is powerfully enforced by John Bell, and there is no department of surgery in which its virtues are more conspicuous. In an experience of nineteen years, in a great many cases of formidable hemorrhage, we have relied upon compresses and the bandage alone, and never have tied an artery for hemorrhage, except after amputations, and in one case where the brachial artery was severed near the axilla, in a remarkably weak and delicate child, who could not have borne the bandage. John Bell's remarks, contained in a single paragraph, cover the entire ground of the uses of the bandage in hemorrhage, and of the principles of its application in all cases. He says: "If a compress be neatly put upon the bleeding arteries, if there be a bone to resist the compress, or even if the soft parts be firm below, and the bandage be well rolled, the patient is almost secure. *But such a roller must be applied smoothly from the very extremities of the fingers or toes; the member must be thoroughly supported in all its lower parts, that it may bear the pressure above. It is partial stricture alone that does the harm, creates intolerable pain and anxiety, or brings on gangrene.*"— Hemorrhagy requires a very powerful compression, which must, therefore, be very general, and must be very cunningly and skilfully made, to be either supportable or safe; it must not be made only over the bleeding arteries, which is all that the surgeon thinks of in general, nor must it be begun at that part where it is particularly required; the bandaging, for example, by which a wounded artery at the bending of the fore-arm may be cured, must be begun at the very tips of the fingers; each individual finger must be rolled; the roller must be continued over the hand, with the greatest attention to leave not a single

point unsupported, nor subject to strangulation. It must be rolled carefully and firmly upwards along the fore-arm and thus the whole of the limb will be supported against that pressure which is made, particularly upon the wounded part. *When thus rightly applied, the firmer the bandage is, the less apt it is to be attended with danger.* Gangrene is, you may easily perceive, the effect, not of a firm bandage because it is firm, but because it is partial, and strangles some single point of the limb."*

This eminent surgeon also bears testimony to the fact, that "at one period of surgery, the bandage took the place of every other method of suppressing hemorrhage." It is difficult to assign any reason for the abandonment of an agent, not only of uniform success, but so infinitely preferable to the ligature, in every point of view.

Nor is it easy to account for the silence of a multitude of surgical works, professing a devotion to the opinions of John Hunter, on the character of an agent capable of exercising the extensive influence that the bandage does, over a vast range of surgical affections, through its control of the arterial, muscular, capillary, absorbent and secreting systems. If we had met with anything in the way of disaster in the use of the bandage, in a great variety of cases, the difficulty might be easily resolved.—But its success has been uniform, its results always beneficial, its comforts of the most gratifying character, and its celerity of cure beyond that of any other means known to us.

It is not our intention to write a monograph on the application of the bandage. Our main object is to show its merits in comparison with the rules of Dr. Walker and M. Bauden, which are quoted in the November No. of the

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* John Bell's Surgery, 1st volume, page 122, quarto edition, published at Edinburgh in 1801.

New York Journal of Medicine, by Dr. Stone. In the course of our remarks, incidental branches of the subject may extend the inquiry beyond those points.

In the article referred to, Dr. Stone enters into an examination of the statistics of primary and secondary amputations, and they are of a frightful character. It seems that "the mortality which followed upon wounds in the Astor Place riot," gave rise to much discussion upon *compound fractures* and their treatment. "Primary amputations have been looked upon with suspicion, and the advocates of this doctrine have been dismayed at the unfortunate termination of every case, it is believed, that was touched with the knife."

In these circumstances, an inquiry into the resources of surgery is an imperative duty, with a view of ascertaining the best means, sustained by the best statistics. Instead of pausing at the inquiry, whether primary or secondary amputations are best, it seems to us more surgical, and more philanthropic to inquire whether either is necessary. It is admitted on all hands, that the mortality after either of them is very great, and we think it would not be materially increased by the abandonment of amputation in many of the cases where it is used. We are glad to see that Malgaigne, in France, has announced his opposition to the practice. His experience was of a character to make him look narrowly into the subject. In a campaign in Poland, in an army of 80,000 men, neither he nor his colleagues succeeded in saving a case after amputation of the lower extremities, and statistics, gathered from the Parisian Hospitals, from 1836 to 1842, show that the mortality in all amputations from wounds was about 75 per cent.*

There are other statistics, furnished by Dr. Stone,

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* Dr. Stone's paper.

which demand attention. In the Massachusetts General Hospital, from 1821 to 1845, there were 367 fractures.—There were 33 cases of compound fractures of both bones of the leg; of these, 14 died—a mortality of 42½ per cent. Of the 33 cases, 10 were amputated; 7 of them died—a mortality of 70 per cent. In these statistics we find reference made to the suppurative period, a fact, for which we shall have some use in another part of this paper.

The same hospital furnishes 12 cases of compound fracture of the thigh, some of which were comminuted. Of the 12, 7 died—a mortality of 58⅓ per cent. In injuries of this kind, Baron Percy has calculated that not more than one-fifth recover. Mr. Guthrie thinks that not more than one-sixth recover so as to have useful limbs, and that two-thirds of his cases died, whether amputation was performed or not, and that the limbs of the other one-sixth were useless and painful. In Holland, in 1814, out of eight of these severe accidents not amputated, one only recovered, and this with a useless limb.—According to Mr. Hennen, not one has done well where amputation was deferred, and, when performed, two out of three died.*

The intelligent writer, from whom we have quoted so extensively, says: "The mortality in bad compound fractures of the thigh is great, and the fear of future evils and death has, no doubt, induced surgeons to adopt the military rule, and to operate at once. But yet, according to the expositors of the rule, amputation does not lessen the mortality." Dr. S. adds: "The late Astor Place riot has added to our experience in gun-shot wounds, and the uniformity with which death followed amputation, has attracted general attention, and led us to inquire if there

* Dr. Stone's paper.

might be an alternative, and whether a better fortune might not have attended a different treatment. We have seen three compound fractures of the thigh, from the riot, and since then a gun-shot wound of the knee-joint. All were amputated, in the New York Hospital, and all died."

These are instructive facts, and to those acquainted with the value of the bandage they are quite as singular as they are instructive. We have been so long familiar with uniform recoveries from these severe injuries, without any impairment of the limbs, that a large per centage of death in such cases is surprising. We have seen compound comminuted fractures of the femur, of the tibia, fibula, forearm and humerus invariably recover under the influence of the bandage. We have seen the most shocking injuries to the joints recover perfectly, and we are more at a loss to say what the bandage will not do, than to record its merits.

After the record of the results of authoritative and fashionable surgery, of which we have given but a mere sketch, Dr. Stone says: "Cases of recovery have now become so numerous, that all doubt in respect to their curability is removed, and a hope is indulged that a clearer insight into their peculiarities and treatment may render their mortality much less than that from amputation." The fruition of such hopes is desirable, and in order to contribute something to this salutary result, we have undertaken the preparation of this paper. There can be no higher object among the honorable pursuits of man, than that which improves the means of alleviating human suffering, and which, tending to the abridgment of the evils of erroneous practice, results in saving not only limbs, but life itself. In the wide range of philanthropy, no more elevated pursuit could occupy the mind, than to bring to an end that disastrous practice which has been so lamentably fatal in the hands of the very magnates of

surgical art. Let us pause a moment and look at the phenomena of compound fractures, treated by authority, and thus get an observation for a point of departure. Dr. Stone says: "In all cases of compound fractures, and especially those made by musket balls, the wounds in the soft parts are narrow and irregular. Pus accumulates, and is prevented from being freely discharged. It consequently dissects up the muscles, forms abscesses along the limb, or separates the soft parts from the bones, which may thence become necrosed. The inflammation, which precedes the secretion of matter, is deeply seated, and may become excessive from the sharp and irritating extremities of the broken bone, or from numerous spicula of comminuted bone irritating the surrounding muscles. The inflammation may be so great as, of itself, to destroy life; or it may extend to the veins and lymphatics. Excessive suppuration may follow, which may extinguish life or necessitate secondary amputation, or the patient may die from purulent absorption. These are the dangers, and in Paris the period of the greatest peril was found to be from the eighth to the fifteenth day."

These are the phenomena of the injuries we have been considering; the controversy is as to the best management of this state of things, and the choice is between amputation, and getting along with these processes in another way. But surely the surgeon may imagine, at least, an object of infinitely higher interest than either—that object is the prevention of the appearance of the phenomena mentioned by Dr. Stone, which we have quoted elsewhere. If that object can be attained, we have reached an improved surgery. The surgeons who flourished before the days of John Hunter, were universally in the habit of dressing stumps, after amputations, in such a way that exfoliation of the bone was an invariable attendant. That exfoliation was then considered a process of nature, but it was no such thing—it was a

process of very bad surgery. Is it not likely that some of this old material lingers yet in the world? May not surgical art still hold on to evils, now considered unavoidable, just as the exfoliation of bone was formerly considered a necessary consequence of amputation? The universal judgment of the old surgeons once was that injuries of the scalp could not be repaired under many weeks —and they took precious good care to make their practice fulfil the judgment. When the French surgeons announced that their flap amputations procured an easy and perfect cure, and that adhesion often occurred in three days, O'Halleran, a surgeon of repute, went into a rage. "I would ask," he said, "of the most ignorant tyro in our profession, whether he ever saw or heard even, of a wound, though no more than an inch long, united in so short a time? These tales are told with more confidence than veracity; healing by inosculation, by the first intention, by immediate coalescence without suppuration, is merely chimerical, and opposite to the rules of nature." O'Halleran covered the face of his stumps with rolls of linen, and called the suppuration, he thus produced, the rule of nature! Have we not O'Hallerans yet in the world of surgery? Even in the midst of such pestilent errors as these, John Bell laid down the rule that should govern now, much more than it does. He knew the evils and the true method of avoiding them. He says: "Whether the wound be broad, in the form of a flap, or long and deep, or a penetrating wound, *there is much danger, lest the sides of such a wound be not kept in close contact;* in such wounds we lay long and flat compresses along the tract of the wound, keeping them firm with a broad or firm rolled bandage, *which both prevents collections of matter,* and brings the sides of the sore into contact." In our judgment the great secret of true surgery is developed in that paragraph of John Bell's. In the valuable truth enunciated there, we have the clue to an improved

surgery, as far beyond that contended for by Dr. Stone, as he considers his beyond the practice of amputations. *In* the treatment of compound fractures, gun-shot wounds and injuries of that character, we would not exchange that "which prevents collections of matter," for everything that has been uttered in favor of other forms of treatment. The counter-openings, the pulling at spicula of bone, and the division of membranes and tendons, often resorted to by the surgery of the present day, seem to us a legacy of the past, when the universal practice was to make deep incisions in gun-shot wounds, and to apply actual cautery, and boiling turpentine and oil in order to kill the poison of the wound. The reputation of Ambrose Parè enabled him to rid surgery of this barbarous course, but he did it, not by an enlightened appeal to the judgment of his times, not by the inculcation of sounder principles, nor through a better understanding of the nature of the subject, but having purchased a secret from a surgeon of Turin, of great celebrity in the treatment of gun-shot wounds, Parè made it known, and brought it into vogue. That secret was the manufacture of "the oil of whelps," made by taking a pound of earth-worms, and infusing them in white wine, and boiling two dogs in oil till the flesh separated from the bones and mixing the oil and wine. A mild ointment was thus procured, and it enjoyed a great celebrity in the cure of gun-shot wounds. This was certainly a great improvement upon the barbaric practices that were displaced by it—it at least kept the surgery of the day away from the wound and enabled nature to depend upon her own resources.—So far as the interests of humanity were concerned, there was great improvement, certainly, in transferring the boiling oil from men to dogs. The fancy of the times was that gun-shot wounds must have something to do with boiling oil, and probably no better plan could have been devised for removing its use from men, than the one

that Parè adopted from conviction of its utility. From the introduction of gunpowder to the present time, it seems to us that the surgery of its wounds is on a par with Bishop South's description of the studies of the Apocalypse: he said, he never saw a man who did not go to the study of that portion of revelation, a fool, and return from it a madman. To many surgical writers, it seems to us that gun-shot wounds are yet an Apocalypse. In other things we may control the wild actions of disease; in this department we are taught only to aid them. If we have a serious paronychia, after the dead bone is removed, we may procure a new bone by maintaining the action of the parts, at the point of serous effusion or the deposit of fibrin, but if we permit suppuration to come on, we may not have new bone. This is true, too, of all those reparative processes where we depend mainly upon the soft parts for the reproduction of new bones. And if we apply the expectant treatment to compound fractures, we must look for that series of phenomena, described in the quotation we made from Dr. Stone; we may announce beforehand, extensive collections of pus dissecting the soft parts in various directions, and inflicting a mass of evil which the surgeon brings into the case, instead of preventing.

There is no agent as capable of closing the door upon that train of evils, now looked upon as an attendant, *ex necessitate*, of compound fractures, gun-shot wounds, and other contusions, as the bandage. It is worth all other means of cure ever commended to the attention of men, and we are firmly persuaded that the young surgeon who may purchase a bolt of common calico; tear it up into simple rollers, and practice the use of them upon the sexes, of various ages, and temperament, until the principles of their action are thoroughly learned, will be infinitely better armed for surgical success than if he could enjoy the privilege of fitting himself up with instrumen-

tation in the establishments of Weiss and Hutchinson.

The bandage effectually controls the arterial and muscular systems, and, through them, all their subordinates. Fever, with ague, is not more effectually and certainly and safely controlled by quinine, than the capillaries, secretory and absorbent vessels, medullary tissue, and the osseous system are by the bandage, and when it is promptly resorted to, properly applied and attended to, the worst cases of compound fracture yield to its influence, and secure the safety of the patient, and the gratification of the surgeon. Under that treatment there is no difference between a simple and a compound fracture.

In bringing about union of the bones, we must be governed by the very same principles that guide us in procuring union of the soft parts—we must regulate the inflammatory action so as to bring it within healthy limits.

The material processes in the union of the osseous tissue and the soft parts are the same. According to Bordenave's experiments and Liston's conclusive statements, there is an increased vascularity in the vessels of the osseous tissue, for the extra duty that is to be performed, just as there is in an incised or contused wound of the soft parts. It is for the surgeon to say whether that increased vascular action shall range within the process of primary adhesion, or pass into a suppurative action, and from that, into still more serious complications.

There is one fact of immense importance, that cannot be too forcibly impressed upon the mind of the surgeon: we have already referred to it in our review of Stanley on "Diseases of the Bones," and we then promised to recur to it in our remarks on the bandage. The accurate observer referred to, in speaking of compound fractures, remarks that *suppuration frequently occurs in the medullary tube of the fractured bone*, and fistulous abscesses are then, of course, unavoidable. That this is an attendant

only upon compound fractures, that are treated improperly, we have the best reasons for believing; we have seen the severest forms of compound fracture repeatedly, and we know of many that we did not see, but which were managed by the bandage, and we have never yet known an untoward symptom in these cases. The whole of that series of disastrous phenomena described by Dr. Stone, and which may be found in nearly all descriptions of these injuries, vanishes under the use of the roller. Under the influence of that simple agent, collections of pus, fistulous canals careering wildly among the soft parts, excessive febrile excitement, inordinate pain, secondary hemorrhage, shortening of the limb, gangrene, and all kindred appearances are absent. These and all questions about extension and counter-extension in these cases, which have been the *animus* of so much surgical controversy, may be quietly buried in the folds of a bandage. The fact thus announced is as certain as that announced by the French surgeons when they resorted to proper methods to secure adhesion in their flap-operations; the contrary will be found, only, by those who, as O'Halleran did, in the question of adhesion, resort to a plan of treatment that sustains their views.

Under the use of the bandage, at the beginning of the treatment, no openings are necessary for gleets, sloughs, &c., for the governor of a steam engine does not more quietly, effectually and certainly control all the movements of the mighty power committed to its keeping, than the bandage does the movements of the absorbents in removing all extraneous matters of this kind. The terminations in compound fractures, of which we hear so much in surgical works,—lymph and moderate suppuration, inordinate suppuration, abscesses, collections of matter and gangrene, from which the suffering and drain are so great as to cause the loss of limb or life—are unknown to the bandage treatment. Let us, however, il-

lustrate the truth, for facts are the best tests of reasoning.

G. B. Didlake, Esq., of this city, a gentleman about 57 years of age, had been the victim to disease of the tibia of the right leg for some time. In addition to this, he was for many years the subject of varicose veins of a formidable character, in the same limb, by which he was frequently confined to the house for several weeks. Last year, while engaged in a fracas with a large, stout young man, he received a kick which broke the bones of the right leg; drove the end of the tibia through the soft parts into his sock, and produced hemorrhage. A messenger was immediately despatched for his surgeon, Dr. Flint, but failing to find him, we were requested to take charge of the case. A more forbidding one could scarcely be found: a compound fracture, complicated with age, numerous spicula of bone grating like egg-shells, the patient debilitated by a previous derangement of the fractured bone, and by a serious condition of the veins, absorbents and secretory vessels of the leg. Long experience in the use of the bandage, and observation of its salutary powers in the most forbidding circumstances, however, induced a reliance upon it. With such assistance as we could command among the bystanders, we succeeded in adjusting the bones, and dressed the fracture with a simple roller, passing from the toes to the knee, in such a way as to command the parts that were to perform the duty of reparation, and to respect the complications of the case. After the application of the bandage, pieces of patent felt, which had been cut to suit the limb, were dipped in hot water, and, while soft and pliable from the heat, were moulded to the limb, and securely fixed with the roller. One of the good qualities of this "felt" is, that while heated with hot water it may be made to adapt itself as perfectly to a limb as plaster of Paris does to a mould, and, when it cools, it is a perfect splint.

Soon after the limb was dressed, we met Dr. Flint, and at his request, saw the patient some days with him. Mr. D. suffered no pain from the fracture, but often expressed his comfort. The dressing was not disturbed until there was assurance that the bones were uniting; and was taken off then, to be adjusted to the altered condition of the limb. In three months, the patient was going about, and he walks now better than he generally did before the accident. Under the genial influence and supporting power of the bandage, and a careful system of diet, this limb, with its serious complications, was not only saved, but improved; what would have been its fate under any other treatment, let the records of surgery testify. We shall look into some of these records presently.

In 1847, a young man named Lefferson Dye, during a fire on Walnut street, rolled from the roof of a house three stories high, and fell on a brick pavement. One ankle joint was very much crushed, and the malleolii were fractured and comminuted. Having prepared the roller and patent felt for the case, we requested Dr. Flint's assistance in adjusting the fractures, which he kindly gave. The limb was dressed with the bandage, and the felt was used as splints; in a short time the suffering, which had been excruciating before the dressing, ceased, and the limb was dressed but twice afterwards.—At the end of two weeks, we met the young man on crutches, the foot being held from the ground, on his way to a meeting of his fire company; and in less than a month from the time of the accident, he resumed his labors in the foundery, where he was serving an apprenticeship. We are informed that he has a limp in his gait which is scarcely perceptible, but he might have avoided even that, by proper attention to the medical instructions given during his convalescence.

Early in July, 1847, a young man named Jarboe, while nailing laths near the garret of a house, three stories high,

missed an object at which he was catching, and was precipitated from his scaffold, through the window, to the ground. He fell on a small conical mound of brick and rubbish, which had been trampled until it was almost as hard as a mass of brick. The young man was picked up immediately, and conveyed into the house, and the supposition was that he was dead. We were immediately sent for, and upon reaching the house, considered his case hopeless. By the use of proper applications, however, he slowly revived, and, upon examination, we found a compound, comminuted fracture of the humerus. The parts were adjusted as perfectly as possible, the fingers were separately dressed with a narrow roller, and the hand and arm were then enveloped in a bandage; the integrity of the adjustment was guarded by the patent felt. The boy was then conveyed to the house of his instructor, and the threatening reaction was controlled by the lancet and purgatives. He complained but little of his arm, after the bandage was applied; the circulation was very sluggish for about twenty-four hours, but gradually came up to a healthy condition. In less than two weeks, he was walking the streets, and within a month was using his arm. He is now one of the quickest and best hands, of his age, in the city, and has as perfect use of his arm as he ever had.

A daughter of Mr. Thurman's, a beautiful child, about four years of age, while playing among the frames of a building, in 1849, was caught under a very large and heavy door frame, which fell with its whole weight upon her thigh, and crushed the femur. We reached the case in a few minutes after the accident, and applied the bandage and patent felt to this serious fracture. The sufferings of the child were agonizing, until the bandage was applied. This relieved her in a few minutes, and she recovered in three weeks, without any inconvenience.

About the time of her recovery, two small boys, on the

same day, in different parts of the city, had their arms fractured; in one of them there was fracture of the condyle of the humerus; in the other, there was fracture of the head of the radius. The bandage was applied to these boys, and in three weeks they were perfectly well, with a single dressing of their arms.

On the day following the accident of the boys, a little girl, about three years old, a daughter of Henry Wolford, city clerk, fell from a horse and fractured the femur. We saw her soon after the accident, and applied the bandage, and she recovered in three weeks, without a troublesome symptom.

We might go on, filling the pages of this Journal with cases of this kind, but we deem it unnecessary.

In the cases we have reported, of severe injury, we have that state of things described by Dr. Stone. He says: "In civil life, *most of the accidents that necessitate* amputation are caused by lofty falls," or by other accidents "which not only break bones but produce general contusions to a greater degree than is likely to be met with in gun-shot wounds." Two of the cases we have named fulfil the conditions that "necessitate amputation."

The young fireman fell from the roof of a house three stories high, and not only fractured, but crushed the bones of his ankle joint, and of course had severe contusion; the young plasterer fell from the attic of one of the tallest houses in Louisville, and produced a very serious fracture. The limbs were saved, were not shortened, and were restored to perfect use, with but little suffering on the part of the patients, and with scarcely any confinement. If arterial action had been suffered to run wild in these cases, and no controlling power had been used over muscular irritability, and the absorbent and secretory systems, either the limbs or lives, and probably both, of these youths would have been lost. As it is, they are as well, in all respects, as before the accidents that befel them.

But for the support of the bandage, the gentleman whose case we first detailed, would have left his leg to some anatomical museum, to prove to another age, how apt necrosis and gangrene are to supervene upon compound fracture, where the complications we have mentioned were present. A diseased bone, fractured and driven through the soft parts, the veins in a varicose state for many years in an aged gentleman, were serious circumstances, and if the vascular parts had been permitted to swell and inflame, would have presented suppuration of the medullary tissue of the bone, exfoliation would have followed, then necrosis, and gangrene of the soft parts would have demanded amputation. But the bandage not only saved this limb, but recuperated it. The cases of the children are reported to show how perfectly the bandage is adapted to their condition, but it must be remembered that children cannot bear a very tight bandage.

But we have, what others may think, cases of more gravity than these—compound fractures of the thigh.—These are considered among the most formidable compound fractures that are curable, and they, under the ordinary treatment, most frequently require amputation.—We could give abundant details of cases of this description, but there is no good reason for lumbering up this paper with reports of a multitude of cases of this kind, presenting a mere repetition of the same matter in a great variety of forms. It is enough that we illustrate the power of the bandage in this kind of injury. In thus restricting ourself to two cases, it may be proper to say that we know of many others, and that we never have known one, treated by the bandage in the hands of one who understood its use, that did not fare as well as the cases we now give. We make an abstract of one of the cases, from a very full report of its phenomena, made by T. L. Caldwell, M. D., of this city. This report was published in 1838.

A young man, eighteen or nineteen years of age, was admitted into the Louisville Marine Hospital, on the morning of the 10th of September, 1837, with a compound fracture of the left thigh. In consequence of some misdemeanor the preceding night, the police officers were in pursuit of him, and when the pursuit closely pressed him, he sprang into a pit about twelve or fourteen feet in depth; the compound fracture was the result of the jump. He was taken from the pit, and left lying upon the sidewalk until daylight; was then carried to jail; remained there some hours, and was then conveyed on a dray to the hospital. Considerable reaction had taken place; the suffering was great; the limb considerably curved at the point of fracture, and the surrounding soft parts much swollen. The external wound was about an inch in length, on the outer side, about four or five inches below the trochanter major, made by the end of the upper portion of the fractured bone, which had torn its way through the mass of muscular fibre, forming the vastus externus. The fracture of the bone was oblique, running upward and inward in the direction of the trochanter minor. The patient was well set and muscular, was irregular in his habits, but had not impaired his constitution.—There seemed to be but little hemorrhage.

After having the limb washed with clean water, Dr. Caldwell dressed it from the toes to just above the patella, with a common roller bandage. Extension and counter-extension pullies were then applied for the purpose of bringing the fractured ends of the bone to their proper position, and by the aid of bleeding, this was soon accomplished. As soon as the ends of the bone were in apposition, another roller bandage was continued firmly from the extending point to the groin, and one or two turns were taken around the body, to keep the bandage from slipping. The external wound was merely covered with a piece of dry lint beneath the bandage. The pullies

were then removed, and the space above the knee, which had been occupied by the extending bands, was covered by a short roller, which completed the envelopment of the limb. The patient was then placed on a mattrass, prepared as a common fracture bed, by which he was kept perfectly still. He was occasionally purged by mercurial cathartics, from the 11th of September to the 17th. On the 15th he was attacked with diarrhea, which readily yielded to one dose of laudanum. Throughout all this time, the patient was free from pain in the limb. On the 17th the dressings were removed for the first time; there was neither swelling nor inflammation in the limb; its form was natural, and without the least shortening, "*the action of the muscles having been completely and as effectually controlled by the bandage alone, as could have been done by the most complicated fracture apparatus for keeping up extension.*" The wound through the soft parts was closed by the first intention, and only a small circular spot, about the size of a six and a fourth cent piece, was not covered by skin—it showed where the bone had protruded. No sinus existed, nor was Dr. Caldwell able to press any matter from the wound. He correctly remarks, that the case might now fairly be considered as reduced to a simple fracture—a fact of inestimable value, upon which we shall insist in another part of this paper.

On the 17th, the dressings were renewed, care being taken to prevent displacement, and the bandage was found to maintain such a condition of the parts, that it was only necessary to support the foot to prevent any unnatural torsion of the limb.

From this time to the 3d of October, every thing went on well with this case. The limb was comfortable, sleep composed, and the natural functions properly performed. On the 3d of October, the limb was dressed for the fourth time, and in the night a severe diarrhea again seized the patient. This was soon relieved. It was ascertained

that union was slowly taking place, the obliquity of the fracture interfering, of course, with celerity in this process. The patient, too, tried experiments with the limb, frequently, and Dr. Caldwell's attentions ceased in the first week of November. The patient was making experiments in the night, unbeknown to his surgeon, to ascertain when his limb would be strong enough to enable him to elope from the officers of justice, and this helped to protract his case. But on the 16th of December, close examination showed that bony union had been effected, and early in January the patient made his escape from the hospital.

We believe that we have given the main incidents of this interesting case. It was managed with skill, and terminated in an admirable success. We repeat that we give these cases as illustrations of the bandage treatment —it would not be difficult to fill this number of the Journal with reports of cases of fracture, that we have treated with the simple roller, and we have never seen an untoward symptom, as a consequence of the treatment, nor but one unfortunate termination of a case of fracture thus treated.

We submit another case of severe fracture of the femur, the details of which were furnished us by the surgeon who treated the case. The severity of the injury caused a great wonderment at the time, over the recovery of the patient, and knowing its history, we requested of the gentleman who had charge of the case, a report of the treatment. We regret that he will not permit the use of his name. He reports:

"Hiram Jones, a painter, fell from the top of the hospital, three stories high, while painting, by the turning of a ladder, on the top of which he was at work. It fell across another large ladder, lying on the ground, with the side of which Jones's head and left side came in contact, producing a terrible concussion of the brain and a com-

minuted fracture of the upper portion of the femur—the fragments of the trochanter being distinctly felt and recognized by the crepitus.

"He was at once carried into the hospital, and the surgeon sent for reached him in about fifteen or twenty minutes after the accident. The urgent symptoms of the injury to the brain first calling for the chief attention, only a temporary dressing was applied to the injured limb.—This was a roller bandage, commenced at the toes and carefully applied with moderate pressure, so as to control muscular action, and continued up so as to cover and control the glutei muscles. There was little hope, at the time, of his surviving his injuries, so serious were the symptoms. By prompt and energetic treatment, the cerebral symptoms were, however, successfully combatted, and about the fifth day, it was deemed proper to adopt such treatment for the injured limb as gave the best promise of success. When the bandage was removed the limb by the contraction of the muscles became shortened, so as to lead to the inference that the fracture involved the neck of the femur. By steady and gentle traction it was brought to its proper length, and again a roller was carefully applied, with somewhat increased power, to the entire limb as before, carefully controlling the glutei muscles. Over this dressing, to the outer and posterior portion of the limb, from the heel to near the crest of the ileum, a splint of thick trunk board, cut to suit the form of the outer part of the limb, and softened by hot water, and another board to suit the inside of the limb, from the groin to the knee, so as nearly to meet the former, were placed upon the limb. These, in their soft state, were made to apply closely to the bandaged limb, by the firm application of another roller bandage over the whole extent, thus converting the dressing into something analogous to the 'appariel immobile' of the French. The patient suffered little or no pain now, and the cere-

bral symptoms gradually subsiding, the limb became the more important object of attention. The first dressing, as described, remained undisturbed till about the tenth day, when it was deemed proper to remove and re-adjust it. The splints were perfectly moulded to the form of the part. All swelling seemed to have subsided, and the limb continued of its proper length, but as yet there was no appearance of course, of real union in the fractured portion. The entire dressing was reapplied without moistening the splints. Everything went on well with the patient, and about the ninth day after, the dressing was applied the third time. At this examination partial union was found to have commenced, there being little or no crepitation in the fractured portion. The dressing was re-applied as before, and again allowed to remain till about the tenth day, when it was removed, and to the astonishment of the attending surgeon, on testing the limb by twisting and turning it in various ways, no evidence of fracture or weakness of the injured portion could be detected. The dressing was not re-applied—there was, of course, temporary stiffness from the long confinement of the muscles, and some stiffness of the knee joint. Friction with the hand, and some stimulating ointment were directed and the patient ordered to remain strictly quiet till crutches could be prepared for him and permission should be given him to rise. There was not the least shortening of the limb. In a very few days, less than a week, he was put on the crutches, and began to move freely about with them. He left the hospital and was so imprudent as to lay aside his crutches and resort to a cane prematurely, and before the cartilaginous union had fairly consolidated. The consequence of this was a slight outward curvature of the limb, occasioning a shortening of it from a half to three-quarters of an inch. He is now an active mechanic, industriously pursuing his business, which he recommenced a few weeks after leaving the hospital."

It is not necessary to dwell upon the skilful use of the roller, and the extraordinary success of its application in this case. Its merits speak for themselves.

We know quite a large number of gentlemen skilled in the use of the bandage, who are often called upon to use it, who rely upon its certain success with as much security as they do upon quinine in arresting an ague, and from this enlarged experience we have the most gratifying assurances of the vast superiority of the roller treatment, over every other form of treatment that has ever been suggested for fractures of every description. It is a misfortune to humanity that an understanding of the merits and application of the roller, is not as universal as the demand for its use. It is painful to read the records of surgery, military surgery especially, even in the hands of such men as Guthrie, Larrey, and Hennen—painful enough from the evils strewed along the path of reading; and more painful from an absolute knowledge that a better surgery would have materially lessened the evils.—The voice of Mr. Pott is yet potential among surgeons. At this moment France is giving terrible evidence that some other surgery than Mr. Pott's must be attempted, and there the surgery of compound fractures turns to the forlorn consolation that nothing unattempted could be more fatal than what is done. It is not at all wonderful that Mr. Pott is reverenced, for he is richly entitled to the respect and esteem of his professional brethren, but inasmuch as a medical man has no right to love anything, even his own reputation, better than the welfare of his patients, why should he reverence anything that stands in the way of that welfare? Hear Mr. Pott now on the subject of compound fractures, and remember that his rules govern in surgery now: "In a compound fracture, the first object of consideration is, whether the preservation of the fractured limb can, with safety to the patient's life, be attempted; or, in other words, whether the prob-

able chance of destruction, from the nature and circumstances of the accident, is not greater than it would be from the operation of amputation. Many things may occur to make this the case. The bone or bones being broken into many different pieces, and that for a considerable extent, as happens from broad wheels or other heavy bodies of large surface, passing over or falling on such limbs; the skin, muscles, tendons, &c., being so torn, lacerated and destroyed, as to render gangrene and mortification the most probable and most immediate consequence; the extremities of the bones forming a joint being crushed, or as it were, comminuted, and the ligaments connecting such bones torn and spoiled, are, among others, sufficient reasons for proposing and for performing immediate amputation." This is the rule of modern surgical practice, and as such we must examine it. In our remarks on Mr. Stanley's work on "Diseases of the Bones," we referred to his singular diagnosis in some cases—singular in being based on the treatment; one set of remedies was to be tried—if it failed, the disease was not the one to which that set was applicable. It strikes us that Mr. Pott's decision in compound fractures, has a basis akin to it; a certain set of symptoms springs up, not, as Mr. Pott thought, in spite of the treatment, but as an inevitable consequence of it, and upon these evils he founds another disastrous series. He did not pause to enquire patiently of nature, whether he might not prevent all the untoward symptoms he describes as leading to immediate amputation. Mr. Pott, unfortunately for himself, and for the science and art of which he was a distinguished ornament, was much more skilful in the use of amputating instruments than of the bandage. If he had understood the philosophy of the latter, he would have enabled Mr. Samuel Cooper to say, that certain forms of dressing will convert a compound into a simple fracture, instead of saying they almost do it.

What are the demands of fractures? If a surgeon permits the lips of an incised wound to stand apart, there can be no union by primary adhesion, but suppuration, and, perhaps, ulceration will follow. If he dresses the wound so imperfectly as to make the adhesion the victim to many chances, the rule is still uncertain, and we may have an M. Roux telling us that surgeons are sometimes lucky and sometimes unlucky in the same line of cases. But if the wound be dressed so as to maintain coaptation and perfect rest, we have none of that variety of result that attends uncertain dressings. The same doctrine is true in fractures of the bones; if they are dressed so as to make it a matter of uncertainty whether the ends of bone remain in proper position, we have uncertainty of result, but if the dressing secures the object perfectly, and keeps the inflammatory action true to union by the first intention, we have uniformity of result. It is of the greatest importance to keep the ends of fractured bones motionless; a callus is in fractured bone, what a cicatrix is in an incised wound, and each may be obtained in the same way. Of all the causes of displacement of the ends of fractured bone, there is none to be dreaded as much as the action of the muscles. Their origin may be above the point of fracture, and their insertion in the lower fragment; consequently we have most difficulty to apprehend from the lower fragment. All writers acknowledge the little control that splints exercise over the short fragment of bone near the articular end. A bone broken in several places, and an oblique fracture present difficulties in preventing retraction of the short portion. The difficulties we have named belong equally to simple and compound fractures; in the latter we generally find the following additional evils: hemorrhage, violent and excessive inflammation, extreme pain, large abscesses, delirium and fever, and gangrene. Of the difficulties we have named, any one may satisfy him-

self by looking over the vast variety of apparatus for fractures. In proportion to the fatality of a disease is the number of remedies for it, that never fail. In cholera we have an innumerable multitude of medicines that cured every case! The same state of things belongs to the apparatus for fractures; each kind is great in its way, is an improvement upon all others—but the difficulties remain. Hence the variety of apparatus.

The philosophy of the bandage shows how eminently that agent is adapted to fractures. In its use, instead of having to combat that irritability of the muscular system which all writers acknowlege is a difficulty of magnitude, in other forms of management, the bandage makes the muscular system the main agent for preventing retraction of the broken bone. Bone can only move in obedience to the muscles, and if they are immovable, the broken bone will be immovable. No contrivance for keeping the ends of the bones together and maintaining them in their place, can be compared to the mass of muscles in the limb, in a state of perfect quietude. When the ends of the bone are brought to their place, and a firm bandage, pressing equably and properly from the extremities of the limb to the proper point above the seat of fracture, is placed upon the muscles of the limb, they are as incapable of motion as the bones. The muscles, therefore, instead of being a difficulty in the treatment of fractures become an important element for success in their management with the roller, and if they are properly used, we not only secure union of the bone, but integrity of the length of the limb; and we need feel no kind of concern about those questions that have puzzled the best of surgeons—the apparatus for extension and counter-extension, the frequency of its use during the cure, &c., &c. On the subject of the roller, Mr. Guthrie says, a bandage is harmful because it prevents swelling, and a certain amount of that is useful to some extent. We grant the

latter part of the statement, it is the *uncertain* amount of swelling against which the surgeon should be on his guard, and for this purpose the roller is worth all other means.

Dr. Caldwell's case is but one of a multitude of similar ones that illustrate, very forcibly, the fact that by the use of the roller, in compound fractures, those formidable injuries are reduced to the character of simple fractures.—And it should never be forgotten, that when the joints are involved, or endangered in fractures, that the ordinary treatment utterly fails, while the roller offers a guaranty of safety that may be sought in vain, in any other resource of surgery ever offered to the world. The remarks of John Bell on the inestimable advantages of the roller, in the treatment of diseased bursa, are as applicable to these cases as to those specially indicated by him. C. Wilson Cruttwell reports cases of diseased joints, in which, having exhausted all the ordinary means of cure in vogue, he was driven to the roller treatment, and succeeded with it. Richerand and Brodie amply confirm the value of the roller in such cases. Mr. Scott obtained great celebrity in the cure of joints, by a bungling kind of shingling of soap cerate, emplast. plumbii., mercurial ointment, and strips of leather. In connection with this stratified treatment, he used the roller, and to that his cures belong, for we have seen cures made with the roller alone. The value of the bandage in fractures involving the joints cannot be disputed, hence the claim we make for it—while it accomplishes all the good that can be gained by any other plan, it has results of its own, that belong to no other treatment. And whether a fracture is intra or extra-capsular, the bandage is the best treatment, and with its proper use, the surgeon may as certainly look for osseous union in a case of intra-capsular fracture, as when the fracture is external to the capsular ligament. Mr. B. Cooper has recently undertaken

to sustain the views of his uncle, who believed that intra-capsular fractures did not unite by osseous matter; but that they do is sustained by too many facts to be shaken.

But to resume; if the ends of the bone are placed in their proper position, if they are maintained there by a dressing that destroys all power in the muscles for motion, common sense teaches us that the ends of the bone in compound fracture will unite just as they do in simple fracture, and while this process is going on in the osseous system, the effects of the contusion or laceration of the soft parts will, under the influence of the roller, recover and get well long before union has taken place in the bones. These are the teachings of common sense, and are confirmed by a great number of cases in practice. In the treatment of compound fractures used by Desault, Boyer, Stromeyer, Vidal, Amesbury, and a host of others, the surgeon must expect the soft parts to undertake some method of cure, while the reparative process is going on in the ends of the bone; with the means in use he looks for suppuration, granulations, &c., with as much certainty as he looks for union in the bones, while the surgeon who uses the roller, is certain that his case will not suppurate, and that he will procure union by the first intention, in the soft parts as well as in the fractured bone. This is no fancy sketch, no statement of a controversial nature, of the operations of common apparatus in fractures; but the sad and sober truth, gathered from surgical records. In order to make the matter impressive, let us gather the fruits of experience from hospital reports: a narrow inspection of them may lead men to acquaint themselves with the roller, and give the world the benefit of that improved knowledge. We make our summary from the reports of London hospitals, and take them as they have risen to view in our reading. Let the reader imagine, when he sees the stereotyped phrase, "the usual means," that he sees men stretched on what

seems to be the debris of a Spanish Inquisition, and that he stands in the very presence of instruments of torture; in the presence of the rack itself, and he may aid himself in forming a just conception of the scene. The apparatus of Mr. Bottomley is supposed to be the perfection of fracture machinery, but whenever we look at it in drawings, we instictively search the picture for the Inquisitor General.

W. F. Vidal, M. R. C. S. and House Surgeon to the London Hospital reports a case of compound comminuted fracture of the right leg, attended with nothing like the serious complications of G. B. Didlake's case, reported in a preceding part of this paper. The fracture was put up in splints in "the usual manner." The hemorrhage, at first slight, increased; the wound was enlarged, a loose piece of bone removed, and "the soft parts being extensively lacerated, amputation was determined upon." Compare this result with the roller treatment in the case of G. B. Didlake.

In the Royal Free Hospital, T. Wakley reports the case of a man, sixty years of age, who was thrown, on the 17th of June, from a cart, and produced fracture of the fibula, dislocation of the foot backwards, with a consecutive fracture of the inner malleolus, and dislocation of the tibia forwards. A case more eminently requiring the roller could scarcely be imagined. The fractures and dislocations were reduced, and the limb placed in a splint. The patient complained of much pain from cramps in the injured limb. The limb swelled greatly on the 19th. July 2nd, the patient had a rigor lasting half an hour. The skin was sloughy in places, and fluctuation was evident around the joint. July 3d, absorbent inflammation up the thigh. 6th, an opening was made, which discharged three or four ounces of very fetid pus, mingled with synovia —slough extending. 7th and 8th, great discharges of pus, and sloughs increasing. On the 12th the limb was

amputated, and on the 20th the man died. The autopsy showed that the fibula was broken in two places, the inner malleolus torn off, the joint in process of destruction —the whole of the soft tissues of the limb were sloughy and disorganized.*

This is the natural result of suffering inflammation to pursue its own course. This patient should have done as well as the fireman of the Washington Fire Company, whose case we have reported, and under the use of the roller the recovery would have been certain.

In Bartholomew's Hospital Reports, we have the case of a compound fracture and dislocation of the bones of the wrist joint, from a fall of eight feet, on the 11th of December. Mr. Lawrence treated the case in "the usual way." On the 18th, extensive discharges of pus were procured; sloughs showed themselves, delirium came on, and on the 22d death took place.†

At a meeting of the Royal Medical and Chirurgical Society, April 13th, 1847, Mr. Partridge reported a case of comminuted fracture of the radius, "treated," to use his own words, "on the usual principles, but in a few days after the accident he came into the hospital, *abscesses having formed*, and pieces of bone having come away," and amputation had to be performed. This statement caused no kind of surprize among the gentlemen present, but among surgeons acquainted with the roller, it must excite the greatest surprize, to see cases of this kind demand amputation.

At the same meeting, Mr. Norton Shaw, the translator of Professor Fenger's work on fractures of the radius, said: "Acknowledging, then, the frequency of this fracture, [of the radius,] and the repeated failures attending its treatment, (Velpean cures but thirty out of fifty,) thus

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* London Lancet, Oct., 1848, p. 335. † Ibid., Nov., 1847, p. 410.

causing a partial, if not total, loss of the use of the hand and fingers, it will be readily conceded than any rational plan, by which a more favorable result may be attained, is worthy the notice of the profession,"* and the rational plan suggested is a splint, that will support the arm, and let the hand hang down! We are really surprized that any surgeon should experience difficulty in these cases: we have never met with anything of the kind, with the roller treatment, and we have seen a large number of simple, and some few compound and comminuted fractures of the radius. We never saw one fail to do well, and never had any suppurative action in such cases. Nor can we imagine why there should be any more difficulty in the treatment of a fractured radius, than of any other bone. It may not be amiss to mention here, that in treating fractures of the radius or ulna with the roller, it is necessary to make semicircular splints, to apply to the outer and inner parts of the arm, the full length of the bones, in order to press down between the bones, to keep them apart. Without this precaution, the treatment of the case will fail. Rolls of paper will do very well, instead of the small splints of wood.

We have, now, gathered the light of the times upon the common management of fractures of the bones of the arm and leg, and have found that "common management," far behind practical medicine, and very far behind surgical science in almost all its other departments. Everything in the examinations we have made warns us that something must be done to remove that deplorable waste of life, the mournful destruction of limbs, and the agonizing sufferings of patients from fractures, which meet us almost everywhere in the surgical records of the times. In the treatment of fractures men move in the beaten

* London Lancet, August, 1847.

path of a circle; all their movements are motions on the periphery of that circle, and few seek to make a departure from it. But it is time that something should be done, and no matter what that may be, it is problematical whether anything could be much worse than the present state of surgery in severe cases of fracture. The testimony of surgeons of the highest repute, shows how constantly, in compound fractures, the amputating knife is resorted to, either primarily or secondarily. We see Roux and Malgaigne in opposition on the question of amputation—one advocating primary, the other urging that an effort may be made to save limbs, without making amputation any more dangerous than it now is, even if it should be the ultimate resort. We have presented the humiliating testimony of Guthrie and Hennen, on the resources of surgery in severe cases of fracture; we have quoted from Dr. Stone the results of the surgery of the Astor Place riot, and have found them almost as disastrous as the fusilade of the military, and we have wandered into the great hospitals of the world, and surveyed surgery, in its practical results, in these severe injuries. And we repeat the impressive lesson, that there is not a feature of the common management of fracture, that does not plead trumpet-tongued for a great change in the treatment. There is not a principle involved in fractures that does not as plainly point to the roller treatment, as calculous disease points to lithotomy. Under that treatment, injuries that are formidable with all other management, become as tractable as ague is under quinine administration, and limbs are saved and restored to perfect use, that would be amputated in nearly all the great hospitals, or by nearly all the great surgeons, in the world. It is not a little surprising to find the surgery of the West and South, in these cases, so infinitely in advance of the great centers of medical and surgical science. What is there

considered formidable, we, in the West, in possession of a simple, philosophical and natural treatment, find tractable and manageable. The disasters of their surgery are unknown in the West and South. After practicing for years in compound and comminuted fractures, gun-shot wounds, injuries of the joints, &c., with the roller treatment, the pathology of similar cases, reported under the best European treatment, seems to belong to a different series of injuries. The hemorrhages, caries, abscesses, sloughs, fistulous canals, &c., that are common attendants upon fractures in Europe, are not merely modified, but are entirely unknown to a more enlightened surgery. In a case presenting a severe compound fracture of one leg, and a simple fracture of the other in the same individual, the chances are, that in European practice, one limb, at least, would be consigned to the amputating knife. But under the roller treatment, no difference would be recognized in the management of the two, and none would be found in the result. Both would get well alike; there would be no more suppuration in the compound, than in the simple fracture, and both limbs would recover at the same time. We have known this so frequently that we speak of the result with just as much certainty as we do of the curableness of ague with quinine. The roller treatment knows no difference between a compound and simple fracture. We exert an influence with it, upon the muscular, arterial, secretory, and absorbent systems, that is unknown and alien to any other treatment; we gain results that are never found in any other, and avoid inflicting sufferings and injuries that are the concomitants of all others. When fractures, gun-shot wounds, &c., are treated by the roller, the pathology of such injuries presents such a distinct set of peculiar features, that it seems almost impossible that it can be-

long to the classes of cases under the same names treated by "the usual means."*

Having thus compared the two systems of treatment, and found the immeasurable difference there is between them, the difference between life and death, between freedom from pain and suffering, and the presence of the profoundest anguish—there remains but one more point in this subject, that requires scrutiny. Men who are wedded to the use of fracture apparatus, suffer an ill-founded prejudice to cloud their minds on the subject of extension and counter-extension, and we now purpose to look into this subject. We have referred to it several times in the course of these remarks; and have a fine illustration of the extension and counter-extension offices of the roller in the admirable case we have quoted from Dr. T. L. Caldwell, in the case of the painter, and in the cases of G. B. Didlake, the young fireman, and Mr. Jarboe. None of the innumerable contrivances, that have been invented, ever held broken bones to their place as admirably, as a well applied roller will universally do it. And it must be borne in mind that the best contrivances of the splint often fail in this essential point. This is admitted and deplored by all who use them. The greatest care is taken

* In the 2d volume of "The Transactions of the American Medical Association," the reader will find a reference to Prof. F. H. Hamilton's Fracture Tables, These tables embrace 136 cases of fracture, some thirty of which were supposed to be in persons who were able to command the best services, for treatment, in the country, The book referred to says: "The results are sufficiently humiliating, and will perhaps surprise even those who have not formed a high estimate of the resources of our art. For instance, only two cases of fracture of the shaft of the femur, out of fifteen, occurring in adults, have resulted without deformity. Of twenty two cases of fracture of the tibia and fibula, seventeen are imperfect. Of thirteen instances of fracture of both radius and ulna, six are imperfect. Of fourteen cases of fracture of the humerus, no less than nine exhibit imperfect results." And yet the attention of the American Medical Association was directed to splints, instead of the bandage! The prejudices of education, are almost almighty!

to find "the exact locality of the fracture, how many inches and lines it lies below the articulating head of the bone, and how far it has occurred below the insertions of the psoas and iliacus muscles,"* and after all this care, the failure to derive benefit from it is often assured by the mechanical contrivances resorted to. Maclise says: "When the femur is fractured immediately below the insertion of the psoas and iliacus muscles, or even at the middle of its shaft, the fragments of the bone are drawn widely apart, owing chiefly to the traction of the muscles named above. The upper end of the bone is rotated almost perpendicularly to the horizontal position of the body, and the lower end, obeying the contractions of all the larger muscles of the thigh, is drawn up behind the upper fragment; if the fracture has occurred obliquely from behind, downwards and forwards, or from before, downwards and backwards, then the lower fragment is retracted. In either case, the plan of treatment indicated is to approximate both fragments, and fit their sundered extremities as closely to each other as possible, and to this end it is that extension and counter-extension of the limb are made." Modifications of Desault's long splint, or M'Intyre's, or the double inclined plane, are the usual resorts. Again, Maclise says: "The patient is lying on his back; we feel the distal end of the upper fragment of the femur pointing to the fore part of the thigh, indicating that the axis of this part makes a more or less acute angle with the axis of the lower fragment: we exercise no command over the position of the upper one;—how, therefore, can we expect that the horizontal extension, whatever be the degree to which this is made, can be the means whereby the upper fragment is to be forced into a

* Maclise's Remarks on Fractures.

line of axis with the lower? *Desault's splint does not effect this.*"

"Owing to the nature of the parts concerned in such fractures of the thigh bone, the deviation of the upper fragment from the line of axis of the lower, is masked to the surgeon, *and it is doubtful whether it be possible to bring both ends of the broken bone in strict apposition by any fashion of apparatus hitherto invented.* * * * If we see reason to praise the long splint of Desault, for its efficiency in maintaining extension, we cannot ascribe to it a fitness in bringing the fractured ends in contact; and, on the other hand, if we recognize the merits of the double inclined plane, in causing the lower fragment to coincide with the axis of the upper, by following this latter to its new position, we know that in the use of it, all power in maintaining the necessary extension is lost.—Though the fragments lie parallel, they are not placed end to end. In fractures of the upper third of the femur it actually occurs, that although, to the outward seeming, the thigh corresponds in length and calibre with that of the opposite and sound side, yet the two fragments of the bone may, at the same time, be drawn so far apart, as that the broken point of the upper one may be felt subcutaneous at the fore part of the limb, while that of the lower may rest deeply buried in the centre of the muscles; *and we have noticed such a condition of the parts to remain, even after the supposed reduction of the fracture,* and the application of Baron Boyer's screw splint," a modification of Desault's invention.

As a corollary to these statements, listen once more to Maclise: "At the Dupuytren Museum, in Paris, may be seen an interesting collection of fractured thigh bones, *united in every possible position which any two freely-moving bodies can be supposed to assume. In this collection there is no example of exact co-aptation between the ends of both fragments.*" This is certainly a powerful plea for reform

in the treatment of fractures, even if we had no other.—We have preferred the use of the remarks of Mr. Maclise, rather than our own, because he is an advocate for the use of splints, and his testimony to their utter worthlessness may have more effect than any evidence we might give. Abundant reason has been given already for the abandonment of what surgeons glibly call "the usual means," of treating fracture, but we must appeal once more to Maclise, on the subject of splints, and if any one, after examining the statement, chooses to rely on such apparatus, he can enjoy the satisfaction of sinning against light and knowledge. Maclise says: "If there were any well approved apparatus for fractures of the femur, one might expect that the use of such would be universally adopted; if this were the only one which could meet all contingencies, it is certain that no surgeon acquainted with its value would, (following the conceit of his own originality) prefer another and less efficient apparatus, even though he himself were the inventor of the same. *But there is no such apparatus, and hence it is that in each of the great hospitals of Paris, we see various modes of treating these fractures,*" The splint is a part of each of these various modes.

It is seldom that such an array of truth can be brought to bear against a long established custom, as is presented in an examination of the records of surgery on the subject of compound fractures, gun-shot wounds, &c., and no kind of apology can be given for a persistence in that kind of surgery that has neither success, nor the comfort of patients to commend it. It is strange that surgeons tenaciously adhere to the doctrine of splints for fractures, when they admit that no apparatus of the kind is sufficient. But such is the hold which established custom makes, that even Mr. Maclise, after all the facts and strong declarations he has uttered, even after the demonstrations he has given of the utter inefficiency of all frac-

ture apparatus, yet moves only in the periphery of the circle. He proposes further modifications of the splint machinery!

We think it is time that surgery should make a tangent from the well beaten circle to which we have referred.—The roller, properly understood, and properly applied, is the only agent that has yet been discovered, that will fulfil every indication in the treatment of fractures. It is the only one that is suitable for every form of fracture, from the simplest to those terrible injuries that involve joints, and is the only one that is adapted to all ages and conditions. Under its genial influence, the muscular system is made to assume and retain its natural position and actions, and when this is accomplished, the broken bones are incapable of those displacements, which Mr. Maclise acknowledges are unavoidable with every species of splint apparatus. When the surgeon reduces a fracture, and gets the muscles of the limb under the control of the roller, he rests as secure as to the co-aptation of the fragments, as he does when the callus is fully formed. He knows, too, that no matter how badly comminuted the bones may be, nor how severe the contusions are, if there is any hope of a reparative process, the roller lights that hope with the strongest guarantee of fruition. There can be no suppuration in the medullary tissue of the bone, no suppurative action in the soft parts, no abscesses burrowing in every direction, no sloughs, no caries, nor any one of the other evils, which all surgeons admit are attendant upon every other form of treatment. But these are gains from the mere avoidance of evils—the positive advantages under the roller treatment are still greater.—The bandage prevents that lateral space which muscles require for contraction; and under its use patients may be taking exercise at an early stage of the treatment, while, under the use of the long splint, or double inclined plane, at the same period in the case, they would be con-

fined to bed. The freedom from pain, too, is a matter of no small moment.

The duty of the surgeon is imperative—he is bound to make himself skilful in the use of the roller, in order to give those who rely on his judgment the best treatment the resources of his art can bring to bear upon the case. The skill can only be acquired by practice; the judgment must be formed upon the profoundest study of the subject, and upon critical observation. With such preparation as this, he will find that he has an agent of more inestimable value in the treatment of all fractures of the extremities, and gun-shot wounds, than all other things, for that object, that have ever been named. But it must ever be borne in mind, that an agent of such great powers for good, has equal capacity for evil, if improperly used. There is a world of difference between the administration of twenty grains of corrosive sublimate and the same amount of calomel. We can derive no benefit from anything whatever, except on the condition that it be used properly. The greatest errors prevail on the application of the roller; it is sometimes put on as a ligature, against which we have already quoted the admonitory voice of John Bell; it is often used without regard to the age, sex, and temperament of patients; and it is often put on so as to press unequally on different parts of the limb. To impress these truths upon the mind, we quote from the Dublin Hospital Gazette. Dr. Ferral reports a case of gangrene, and loss of a thumb, in a child, "from the application of a bandage, required in the adjustment of a fracture of the forearm." "A like result," says the London Lancet, "extending even to the loss of an entire limb, has frequently had its origin in a similar cause." We think our readers, when they examine the case, will say with us, that Dr. Ferral's was one of *misapplication* of the bandage, rather than the application of it. Dr. Ferral says: "The thumb suffered

more severely, and was lost altogether. This is easily explained by the mode, so often adopted, of applying a bandage on the hand and forearm. A slit is made in the bandage, and through this slit the thumb is passed, in order to prevent the disturbance of the roller. In the present case, the thumb, as well as the whole hand and arm swelled after the application, and the thumb was consequently strangulated." No other result than this should have been looked for in such a case. Infants bear the roller as well as older persons, but it must be adapted to their age and condition. In all cases, for all ages, in applying the roller to the hand or arm, it is essential that the thumb and each finger be firmly bound with a narrow roller; the roller may then be placed on the hand, and if it is properly done, no harmful result can follow.

The details of Dr. Caldwell's case on pages 116, 117, and 118, show the character of the duties involved in the application of the roller, in compound fracture of the thigh. In addition to those details, we quote from the first volume, quarto edition, of John Bell's surgery, a lucid account of the application of the roller. In the fourth discourse, we have a masterly treatise upon "the various uses of the bandage," constituting a monograph on the subject that is not surpassed by any anything we know of in the literature of surgery. The surgeon who makes himself familiar with the "Discourse" referred to, will be thoroughly furnished for the practice of his profession in this department—without the knowledge contained in it, his surgery is crippled and crippling, no matter what his other resources may be. If we had to sum up, in a sentence, the duties of a student of surgery, we should say to him: Study John Bell's "Discourse on the various uses of the bandage;" learn to practice its principles, after you make yourself familiar with its use, you may then regard yourself qualified to practice in an extended field of surgery.

In this treatise, John Bell gives the following directions for the application of the roller: "It is obvious, that of all bandages the simple roller is best fitted for a diseased limb; but the moment you begin to apply this simple bandage, you will meet with unexpected difficulties; you will feel the necessity of use and practice towards rolling a limb with neatness and perfect *effect;* you will find yourselves awkward at first, and would almost believe, that a simple roller could never be made a perfect support to a diseased joint; you will perceive your bandages to be irregular from the first, and they will be slackened in a few hours. Practice will convince you, that the firmness and neatness of a bandage depends altogether upon these two points, first upon the TURNS succeeding each other in a regular proportion; and, secondly, upon making REVERSES, wherever you find any slackness likely to arise, from the varying form of the limb. Thus, in rolling from the foot to the ankle, leg, and knee, you must take care, first, that the turns, or, as the French call them, doloires, of the roller, lie over one another by just one-third of the breadth of the bandage; and, secondly, that at every difficult part, as over a joint, you turn the roller in your hand, make an angle, and lay the roller upon the limb with the opposite flat side toward it; you must turn the bandage so as to reverse it, making what the French call a Reversée of the roller, at the ankle, at the calf of the leg, and at the knee; wherever, upon making a turn of the roller, you perceive that it will fall slack, you make a *reverse* of the bandage, and at each reverse you put in a pin to prevent it falling down; you must be careful to roll your bandage from below upwards, and support the whole limb by a general pressure, that you may be able to support the diseased part with a particular pressure," &c.

No man ever had a clearer conception of the powers and general use of the roller, than John Bell, and it is strange, that with all the knowledge he had of its use

aad action, he did not more powerfully enforce its application to fractured limbs, because it is evident from what he says, that he knew the value of the roller in the treatment of fractures. He also knew its power over gangrene, for which Baron Larrey recommended his unguents.

It is interesting, however, to look at the compass of Bell's use of the bandage in surgery, and we take pleasure in giving a synopsis of his able and valuable views. He had a clear conception of the subject, and urged upon his pupils that, "a bandage is not merely useful in tying up a wound, but in accomplishing *many important operations in surgery, more interesting, indeed, than those which are done with the knife.* In wounds, in abscesses, in fistulas, in any general disease of a limb, bandaging is the chief operation of surgery; what the knife cures, it partly destroys; what the bandage cures, it saves." The latter remark should be written in letters of gold.

We have already quoted, from the first portion of John Bell's treatise, his commendation of the bandage in gunshot wounds. Its use in hemorrhage is urged with much judgment, as the reader will see from our quotation in the first portion of this paper. In abscesses, aneurisms, fistulas, "in a limb undermined with suppurations," John Bell urged the bandage with great eloquence. In reference to the latter, he says: "It is in a complicated case of a swelled and diseased limb that we are sensible of all the uses of a bandage, *which is a universal cure for all its disorders.* By the bandage we dissipate the leucophlegmatic swelling, abate the inflammation, prevent the extension of matter, lessen suppurating cavities, close the walls of fistulas, and procure the reunion of surfaces which have suppurated." In the same truthful and philosophic spirit, John Bell urges the bandage in varices, and in ulcers. In the latter, he says: "Let the limb be rolled from the very extremities of the toes, and then roll

it as tight as you will, you can do no harm. * * * The bandage so rolled, by a skillful hand, is the only certain cure; neither ointments, nor mercurial preparations, nor sponges, nor leaden plates, will cure an ulcer—it is to be cured only by firm, equable, and perfect compression. * * * * There is no inflammation of the lower extremities, in which I do not experience the good effects of firm rolling." John Bell used the bandage for sprains, and dropsical effusions of joints, and knew its power over the absorbent system. He says, too: "By compression merely, ganglions may be obliterated, tumors of various kinds dissipated, and proud flesh or fungus suppressed," and he declared that many other things could be done by compression, which it was not his design to mention in his discourse.

We here close our remarks on the common surgery of fractures, and the treatment of those injuries by the roller. If what we have said, shall induce practitioners to pause before they remove a limb that may be saved; and in full confidence of the reparative powers of nature, under the supporting presence of the roller, they prefer an effort at saving, rather than a display of a set of amputating instruments; we shall be abundantly remunerated for the labor bestowed on this essay. And we shall greatly rejoice, if we have presented the subject in such a point of view as to induce the abandonment of all apparatus for fractures, except the simple roller, properly understood and applied. The physician who goes forth among his fellow men, equipped for the use of the roller with judgment and skill, may rest assured that he is prepared to be a benefactor to his species. We would not exchange what we have seen accomplished with the roller, for the knowledge that we were universally esteemed the first of amputators. Almost any one may cut off limbs; true science and skill alone can do the better part —save them.

In noticing the remark of Mr. Vincent, on the treatment of varicose ulcers by the roller, Mr. Critchett says: "If I had no other motive for publishing these lectures, a sufficient reason might, I think, be found in the manifest duty of endeavoring to counteract the tendency of such a remark from so high an authority, embalmed, as it is, among so many valuable and philosophic truths, and therefore the more calculated to exert a baneful influence upon the profession at large." If the remark of one able writer, on a single point in the treatment of one form of ulcer, could thus plead in behalf of Mr. Critchett's lectures on ulcers, surely the universal disasters that attend the ordinary treatment of fractures, may plead as a reason for calling attention to a method of treatment that is universally applicable, and which is unattended by any one of those evils that wait, as a train, upon the other management.

In a future number of this Journal, we shall continue our examination of some of the other uses of the bandage, beside those for fractures. During the composition of this paper, we have had several interesting cases that will serve to illustrate the beneficial effects of the roller, but we must reserve additional remarks for another number.

ART. II.—*A Case of Rupture of the Ilium and Omentum, and fatal result in twelve hours.*

The following case was reported to me, by my pupil, Henry B. Vaughan.

On the twelfth of the present month, December, Daniel Page, a free man of color, formerly of Cincinnati, Ohio, was riding a mule with speed, and being thrown to the ground, he fell upon the end of his walking cane.—The cane reached the ground end foremost, and standing

perpendicularly, the upper end was received by the abdomen, to the right of, and a little below the umbilicus.—About 2 o'clock, P. M., Dr. Crittenden saw him, just after the accident. At 4, P. M., Mr. Vaughan saw him.—He was in great agony. Pain in the epigastrium; almost constant vomiting; pulse small, corded and frequent; tenderness, on pressure, over the whole abdomen; considerable thirst; constipation of bowels, so obstinate that all efforts to evacuate them per anum were fruitless; a small hernial tumor was protruded through the right external ring, which was readily reduced by the taxis.

The surface became rapidly cold, and the patient died at 2, A. M., on the 13th.

Autopsy, by the above two gentlemen, ten hours after death.—The great omentum was pushed upward and backward, carrying the transverse arch of the colon with it, so as to be completely concealed by the stomach. It was highly injected throughout, and lacerated at several points. Eight or ten ounces of bloody serum in the peritoneal cavity. The peritoneal coat of the intestines, especially of the small bowels, was of a bright red color, and their convolutions were so completely agglutinated everywhere with coagulated lymph, as to form them into one mass. The membrane on the walls of the abdomen, was generally inflamed, and covered in patches with false membrane. There was a transverse rent of the ilium, about six inches above the ileo-cecal valve, extending two thirds of the circumference of the bowel, through which some feces had escaped.

The point of interest in this case, is the extensive adhesions formed in so short a time. The peristaltic action must have been completely paralyzed, so as to allow the lymph to be organized as fast as secreted.

F. H. GORDON.

Lebanon, Tenn., Dec. 15, 1849.

REVIEWS.

ART. III.—*A Critical Analysis of the "Review" of Prof. B. W. Dudley's article on Aneurism, in the November No. of the Louisville Medical Journal.* Transylvania Medical Journal, Vol. 1. No. III.

Gentle reader, we have been analyzed—not skilfully by the practiced hand of an experienced manipulator—but rudely, by one who raves as if he thought,

"On such a theme 't were impious to be calm."

Doubtless, as the eye of the editor of the Transylvania Journal of Medicine traced the foul characters that soiled the virgin purity of the sheet before him, he gloated over the work of destruction which he vainly fancied was being accomplished. With what demoniacal satisfaction he contemplates the mangled remains of his pigmy victim, torn limb from limb, and strewed in confusion around him. We are happy to inform our readers, however, that a sufficient amount of vitality remained, to reanimate the scattered fragments; and we once more stand erect before them, prepared to do battle in the cause of truth, reason, and common sense.

We assure our readers that the tone of the analysis, better suited to the pot-house politician than to the dignity of a medical professor, is foreign to the ordinary bearing of its author, who has been, doubtless, betrayed into ungovernable passion by deep devotion to one to whom he is indissolubly bound by ties of blood and long years of unbroken association. But we have hope of him

—passion will subside, and calm reason again resume her legitimate supremacy:

> "Those hearts that start at once into a blaze,
> And open all their rage, like summer storms
> At once discharged, grow cool again and calm."

We remember no instance in which true science has been advanced by grandiloquent declamation, opprobrious epithets, or personal defamation; we, therefore, decline to follow the young professor in his "revels in the filthy stew of detraction," "personal malevolence," "splenetic assaults," "villification," etc., etc.

As, in some minds, we often observe strange admixtures of exalted virtue and debasing vice, pure and refined sentiment linked to the lowest and most grovelling propensities, so, in the analysis before us, we discover allegations of the basest motives, epithets the most foul, and personal detraction the most unmerited, strangely associated with the purest and most lofty sentiments that can adorn the human character. We will be charitable to the analyst, and believe that his indiscretion is the result of a sudden ebullition of passion, and, hoping that his fine poetic taste may extract a lesson of wisdom that will serve him well in future, we commend to his serious consideration a truth, which does not seem to have exerted on him its due weight:

> "When anger rushes unrestrained to action,
> Like a hot steed it stumbles in its way:
> The man of thought strikes deepest, and strikes safest."

We repel, with "unutterable scorn," the charge of "personal malevolence," in our review of Professor Dudley, and the chief object we have in view, in noticing the analysis, is to place ourself right before the readers of this Journal. He who writes at all, is extremely fortunate if he does not, sometimes, let fall expressions which, after mature deliberation, he would gladly alter, amend, or wholly omit; but if such defects be justly chargeable

to our review of Prof. D., we have not been able to discover them, but lest others may think otherwise, we declare, that no personal disrespect was intended. Our allusions were exclusively directed to the dogmas and claims of Prof. D., and touched his standing only as a teacher and writer.

We feel confident that we have not transcended the limits observed by many of the best critics in medicine—and that, while our strictures are confined to opinions, and do not degenerate into personalities, the utmost freedom will not only be tolerated, but justified and approved by the unanimous voice of the profession. Several examples occur to our recollection at this moment, to which we beg to call the attention of our analyst. One of these we give, on account of the known purity of heart, kindliness of feeling, unadulterated good taste, and high standing of its author; the others are from the colleagues of our analyst, with whom he is in daily association.

Prof. Bartlett is justly renowned for his good taste and gentlemanly bearing toward members of the profession, without the slightest tincture of gall in his nature; and, for ourself, we feel no apprehension of giving just cause of offence, while circumscribed by the principles and bounds of criticism observed by that truly great and good man. Note Professor Bartlett's strictures on the doctrines of the venerable Rush, and the analyst will scarcely venture to rank his distinguished kinsman higher in point of fame or ability than that wonderful man—and beside Prof. Bartlett's strictures, our notice of Prof. D. will assume as mild an aspect as his best friends can desire. Speaking of the leading feature of Dr. Rush's doctrine of fever, Dr. B. says: "It is not merely abstract, gratuitous, and unintelligible, but in direct and manifest opposition to all common sense, to all true philosophy, and to all correct observation. * * * * It may be safely said, I think, that in the whole vast com-

pass of medical literature, there cannot be found an equal number of pages, containing an equal amount and variety of utter nonsense and unqualified absurdity,—a more heterogeneous and ill-adjusted an assemblage, not merely of unsupported, but of unintelligible and preposterous assertions, than are embodied in this exposition of this theory."*

Had Prof. Bartlett any selfish purpose to subserve?—Was he seeking the gratification of a revenge incited by disappointment? Did he intend any personal disrespect, or aim to fix a stigma on the memory of the great Rush? No! He was nobly battling for truth and correct philosophy, and while he pitilessly struck down the false theories, he not the less venerated the man, and paid due homage to his well deserved merits, declaring, "notwithstanding all this, Dr. Rush was an honor and an ornament to his country."

Has the analyst seen the review of this same "Philosophy of Medical Science," from the pen of his colleague, Prof. Annan? We regret that we cannot lay our hand on the Southern Literary Messenger that contains it, as it would afford us pleasure to cull some of its beauties and exhibit to the analyst how far Prof. A. thinks the bounds of legitimate criticism extend. Was Prof. A. actuated by "that ruffian-like spirit which seeks pleasure in wilful and oblique aggression, and revels in the filthy stew of detraction?" Had Dr. B. interfered with the prospects of Dr. A., or did the latter intend only to express the opinions he entertained of the doctrines of the former, with no purpose to give personal offence? We are bound to believe that no disrespect was intended, and that Prof. B. did not regard Prof. A. as overleaping the recognized limits of justifiable criticism, as these gentle-

* Philosophy of Medical Science, p. 225.

men were afterwards associated together in the same school, and met as gentlemen and friends.

Has the analyst seen the review of Dr. Lewis's "Medical History of Alabama," by his present colleague, Prof. Boling? Does he think that Prof. B.'s strictures were prompted by selfish and unworthy motives, or that he was actuated by the laudable desire to refute error and to establish truth?

Has the analyst met with the review of Dr. Caldwell's "Physiology Vindicated," by Prof. Peter? Unusual severity is apparent in every line, and yet we will not charge, nor do we believe that the analyst will charge that severity to "rude and intemperate feeling," "malevolence," or "scribbling impertinence."

A single paragraph is so appropriate that we extract and adopt it, as an ample apology for the manner in which we have discharged the disagreeable task we have undertaken.

We quote Prof. Peter, only substituting the name of Prof. Dudley for that of Dr. Caldwell:

"Truth is more venerable, exalted, and powerful than the Professor, and error must be continually unmasked, to prevent her from imposing herself upon those who have not the time, inclination, or ability to look beneath the surface of things. The respect which I, in common with many others, entertain for the venerable Prof. Dudley, cannot excuse me for the desertion of her standard; and the apparent want of courtesy, which may be supposed to exist in my animadversions, must be excused in the necessity of the case. Truth must be promulgated and sustained; and, if those who oppose it are offended, the fault is only with themselves."*

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* Review of Dr. Caldwell's Pamphlet, entitled "Physiology Vindicated," p. 4.

The truth is, the reviewer may often be severe in regard to opinions and doctrines, without rendering himself fairly liable to the imputation of base motives or personal disrespect to his author. We should have varied in nothing our critique of Prof. D., if he had been, to us, an entire stranger. The young professor ought to learn in the outset of his career as caterer for the medical public, and we have alluded to the examples above to show, that there is very generally recognized a proper and clear distinction between men and authors—between persons and opinions; with the former, we have naught to do, and we would not parade the personal faults of an author before the public, if we knew any to exist, and it were in our power to array them in solid phalanx to overwhelm with confusion. Our concern is with the mental offspring, and we beg the poor privilege of dealing with the bantlings as we may think they merit by their comeliness or deformity.

Our strictures on Prof. D. were not more stringent, or less liberal, than those daily uttered by him on the labors of others. How many of his lectures, during every session, are introduced by the regret that he stands alone, and that he does not know a single author to whom he can refer, that has treated the subject in a rational manner—that "the books are all wrong," has been with him a stereotyped expression, for a score of years; and we have heard more than one member of the present class declare that his lectures were well calculated to destroy all faith in medical records, and to discourage the student from the drudgery of laboring through what is uniformly represented to him as an unbroken series of error. But, perhaps, age may confer a right that is denied to juniors.

We are charged with injustice to Prof. D., and that injustice is ascribed to the base feeling of revenge, excited by disappointed ambition. We have never applied for a place in Transylvania, and scorn the unjust imputation.

The time was, when the tallest intellects that adorn the profession, sought, without derogation, that high honor; but the system of nepotism, which has so long ruled the destiny of Transylvania, has caused those days of glory to be numbered with the things that were.

With how much more force might we retort on the analyst, that his zeal is inspired by obligations he owes his kinsman for the place he occupies, and that regardless of truth, honor, or reason, he is bound to follow the lead of his patron. But we prefer to be charitable, if not just, and to judge others by our own feelings; conscious of no unworthy motive in our own breast, we will not believe that he is actuated by a mercenary spirit, unbecoming a man of truth and a gentleman. We would rather impute his untempered zeal, and rash efforts at defence, to a firm and sincere, but blind, faith in the dogmas taught by his uncle—a faith, naturally fanned to greater intensity by gratitude for kindnesses and favors bestowed without measure.

As to the young professor's vulgar allusion, in regard to the supposed effect of our introduction into the school, we may say that we should have been truly mortified if we had accepted an appointment, and our acceptance had been followed by as rapid and steady a decline as that which succeeded the induction of the analyst into the chair of pathological anatomy. Each succeeding class, since his appointment, has grown "small by degrees and beautifully less," until a respectable class of over two hundred members has dwindled to little over one-fourth of that number. The difference between the two opinions entertained on this subject, is as obvious as that which exists between hypothesis and demonstration. He *thinks* that our connection with the "old patient" would have proved fatal; we *know* that his has resulted in utter exhaustion, and brought the poor sufferer to the last extremity. That we are not singular in our opinion is quite

evident, since the analyst and his associates have, in despair, proposed the last desperate remedy—a change of climate. Who knows but a winter residence on the banks of "*la belle riviére*," and a summer's sojourn in the "Athens of the West," may result in the restoration of the "old patient" to pristine health and vigor?

Seriously, no one can feel more sincere regret for the rapid decline of Transylvania than ourself. In our opinion various causes have conspired with that system of favoritism that disregards qualification, to effect this lamentable result. Some of these causes were unavoidable, and others may yet be removed. The facilities for intercommunication by means of steam power have produced a decided tendency to centralization in the large cities, in matters of education, as well as in commerce—and hence, the rapid decline of interior schools, and the extraordinary growth of those more favorably located.—This result has been materially promoted, by the superior advantages for anatomical and clinical instruction, offered in the midst of a dense and numerous population.

But the most fatal blow to Transylvania comes, very strangely, from her own Professors, who have sought, and are now seeking, to remove the school to another and a distant city, thereby admitting that, in their judgement, Lexington is not a suitable site for such an institution, and thus giving the vantage ground to the enemies of the school, who are anxiously seeking its annihilation.

Let a united faculty exert all its energies to foster and sustain the school where it has flourished so many years, and frown indignantly on every intrigue for its removal, and, with the ample means for instruction in an extensive and valuable library; in the costly apparatus and well filled museum, which the extraordinary liberality of the people of Lexington has placed at command, and a respectable school will be ensured as long as medical science continues to be cultivated. Dismiss the delusive

hope of successful competition with more favored neighbors, and banish petty jealousy from the mind, and a reasonable expectation may be indulged, not of a full restoration of Transylvania to her former proud distinction, but, that she may attain a standing quite as elevated as any interior school in the country. This, we believe, the present faculty may accomplish if they choose to pursue a wise and prudent course. To hope to effect more would be as utopean as to expect Lexington to rival New York in commerce.

Another cause, and not an insignificant one, for the hostility displayed against the institution is to be found in the overbearing, dictatorial and abusive spirit so prominently exhibited in the analysis before us. All who have dared to dissent from any of the dogmas of Professor Dudley, have been ruthlessly assailed, and their usefulness and professional standing destroyed, as far as it was in the power of his too ardent and over zealous friends and defendants to accomplish the work; such may also be our fate, but, if so, we shall go down with the conviction that we have faithfully discharged our duty, and cheered by the consolation that the right will sooner or later triumph:

> "Truth crushed to earth, shall rise again—
> The eternal years of God are hers;
> But error, wounded, writhes with pain,
> And dies amidst its worshippers."

Admitting Professor D.'s superior attainments in surgery, we believe we are still in a better position, than the analyst, to form a true estimate of the professional merits of Professor D. Personally friendly, we have no prejudice to blind; no malignant feelings to gratify; bound to him by no unusual ties, we have no bias to mislead—no obligations to cause us to falter in the advocacy of truth.

We respect Professor Dudly as an able—an extraordinary man—a man whom nature has endowed with transcendent abilities, and an indomitable energy and perse-

verance. As a teacher of anatomy, we do not believe he has an equal; we doubt, if a century produces a superior. Here, in fact, was his power, and the secret of his fame as a teacher, a fame, that waned from the first moment he ceased to teach facts, and undertook to impart principles. As an operative surgeon, he also stands, in our estimation, preëminent. Great, however, as we esteem him, we believe that with a little less self reliance, he would have accomplished a far brighter and more enduring reputation than that which he has achieved, or can hope hereafter to achieve. Less pride of opinion, and more distrust of self, would have induced a more candid and careful analysis of the doctrines of others; enlarged and rendered more perfect his own views; and softened much of the harsh judgment which he daily pronounces on the labors of his predecessors and contemporaries.

With a brief notice of some of the points in the analysis, more worthy of consideration than those we have passed in review, we shall dismiss the subject, with the determination to pursue, hereafter, the original purpose of confining our attention to such essays as may be published by Professor D.; leaving the field clear to such volunteers as may enter it (we presume) with the impression that the Professor is unable to defend and maintain his own position. The analyist introduces his critical remarks with the request, that "it be remembered that the essay of Professor Dudly was designed as a plain and concise statement of his own experience—that he designedly avoided detail," etc. This is a virtual acknowledgment of the short-coming of the essay, which we had the honor to review, for, in the prospectus of the Transylvania Medical Journal, it was announced that those essays would "present a *full* record of his (Professor D.'s) extensive experience," now, however, we are told that detail is purposely avoided, and that we are to have only an imperfect synopsis—a crayon sketch instead of a perfect

picture. Well, we will bear this in mind hereafter, and lower, somewhat, the standard by which we intended to measure the merits of the successive numbers of the series. Indeed this is not the first evidence that the volunteer champion of Professor D. has given, that he thought the essay neither so perfect or lucid as was desirable; else, why did he deem it necessary to analyse, re-arrange, and systamatise it in the second number of his journal? This was required by the imperfection or obscurity of the essay itself, and its unintelligible character is thus established by the editor's own act; or, he has paid his indulgent readers the poor compliment, to suppose that they could not fathom the depths of the original essay, and extract from its recesses the excellencies and beauties with which he would fain *force* us to believe it is enriched.

The analyst occupies, very unnecessarily, nearly two pages to prove what we very clearly admitted; that many of the ablest surgeons agree in "attributing to Mr. Hunter the honor of first suggesting the most successful mode of treating aneurism." We pronounced this a "common error," and gave, from original authority, the evidence on which our opinion was founded. The analyst labors hard to shield Professor D. behind the great name of John Hunter, and would fain make the impression that we have treated that distinguished man with injustice, and that Professor D. occupies the position of his defender. We are pleased to hear that Professor D. speaks well of at least one surgical writer, for it was not his habit to treat John Hunter or any other author with much respect when we had the honor of listening to his lectures. But this is a mere ruse and not an unusual course with partizans when foiled by facts, and in want of argument. The hope of escape lies only in distracting the mind by making a diversion on points not at all material, and only appearing incidentally, while the matter truly at issue is passed

over so lightly as scarcely to attract attention. John Hunter requires no eulogy from us, nor can the analyst, with all his oratory, add one mite to a reputation as broad as the bounds of science, and as enduring as time itself. The analyst declares that Professor D. had learned, from the mature teachings of his predecessors, "that such treatment (by compression) had proven so painful, hazardous, and inefficacious, as to be condemned and discredited, although a few cases of success had been recorded."

Now, we believe, that we are borne out by authentic history, in asserting that compression has been resorted to in the treatment of aneurism, since the sixteenth century, when it was tested, and found to be a valuable means, by John of Vigo, Paré, Hildanus, etc. About the middle of the seventeenth century, the tourniquet was put in requisition, by many surgeons, to check the flow of blood into the aneurismal sac, and various contrivances were adopted to effect suitable pressure on the tumour itself.

The practical importance of this subject will excuse us for giving the following extract, pointing out, as it does, in a clear and concise manner, many of the circumstances that should control us in the use of compression, and the character of cases in which we may reasonably hope for success. At the same time, it will sustain the position, we have assumed, that the remedy is neither novel nor of universal application. Professor D.'s first case was treated by compression in 1814, the extract dates in 1807:

"In order to obtain a completely radical cure of aneurism, by means of compression, it is necessary that there be a certain degree of vitality in the proper coats of the artery, that the pressure be sufficient to keep them in firm contact, and excite in them the due degree of adhesive inflammation. It is, therefore, more likely to fail when the disease has been produced by internal causes,

where a considerable portion of the artery is disorganized above the laceration or rupture, and not disposed to undergo the adhesive inflammation. *Some surgeons think that the compression ought to be employed in every case of aneurism;* but experience has shown, that it proves injurious in all those which are of long standing, of a large size, painful, and false, as they were formerly called; when the pressure is applied below the place of the injury in the artery; when, on account of the size and exqisite sensibility of the aneurism, and the depth of its situation, and the swelling of the contiguous parts, a sufficient degree of pressure cannot be employed to keep the sides of the artery in firm and steady contact; and, lastly, in all cases, where, from the history of the disease, we have reason to suppose, that it has arisen from a steatomatous or earthy degeneration of the artery. In cases the reverse of these just mentioned, compression has often effected a complete cure; of course it is a method which ought not to be entirely excluded from practice."*

We believe that our readers will find more available information in this short extract, in regard to the nature of pressure in the treatment of aneurism, and the peculiar cases to which it is adapted, than can be extracted from the whole of Professor D.'s essay and all that has been added by his defender.

Dr. Parish in 1810, four years prior to Professor D.'s first case, remarks, after alluding to Scarpa's commendation of the bandage in certain cases of aneurism: "Other surgeons have used compression with a pad and tourniquet, and suddenly stopped the circulation in the tumor. This treatment is then continued until the limb becomes edematous, when the tourniquet is directed to be remov-

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*Ed. Med. and Sur. Jour., v. 3, p. 489—Review of Scarpa on Aneurism.

ed; and the pressure of a pad and roller is said to be afterwards sufficient."*

We find in the *Archives Génerales de Medicine*,† an allusion to an article by Mr. Giraldés, on the treatment of popliteal aneurism by compression. In view of the serious accidents that not unfrequently follow the ordinary operation, he inquires if these may not be avoided, and a radical cure effected, by means of compression. It is then remarked: "L'auteur rappelle d'abord que cette methode a été employée avec succès par Dubois, White, Viricel, et Dupuytren. Plusieurs chirurgiens irlandais l'ont mise en usage dans ces derniers temps avec non moins succès; l'auteur rapporte ici les faits publiés par MM. Hutton, Cusack, Bellingham, Allen et Grentrex. MM. Liston et Bellingham se sont encore servis de la compression pour deux cas d'anevrysme femoral, et ont également reussi. Voila donc huit observations nouvelles qui, ajoutées a celles des années précédente, sont en faveur de la compression."

In the American Journal of the Medical Sciences, for January, 1847, we have a table extracted from The Dublin Quarterly Journal, from which it appears "that twenty-nine cases of aneurism—six femoral and twenty-three popliteal—have been treated by pressure upon the artery leading to the sac; of which number, nineteen occurred in Dublin; and that in four, the femoral artery was tied, chiefly from want of confidence in pressure, on the part of either surgeon or patient, and that in twenty-five instances this mode of treatment was successful."‡

We are fully aware that the mode of application pro-

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*Eclectic Repertory, v. 1, 509.

†Tom. 8 p. 104.

‡Amer. Jour., No. xxv, p. 186. If our readers desire further information on this subject, they may consult with advantage the same journal, Nos. 22, 26, 31, 35, 36.

posed by Professor D. differs from that of Mr. Bellingham, but the principle is the same, and the cases therefore in point—the principle is undying; the mode does, and ought to vary with circumstances.

We have provoked mortal offence by intimating the possibility that Professor D. might have mistaken a functional disorder of the heart for an organic lesion of that organ. Well, we have known the Professor to fall into such errors; and, we presume, they have occurred to the ablest men that ever adorned the profession; and serve rather to illustrate the imperfection of our means of diagnosis, in all the Protean forms of disease, than to detract from the fame or ability of the careful practitioner.

Corvisart, after repeated and most deliberate examinations, pronounced a patient to be the subject of *aneurism of the heart*, and this diagnosis was concurred in by several other physicians who were consulted, and yet the autopsy subsequently revealed the fact, that *all the thoracic organs were perfectly sound*, and that the patient had succumbed to *disease of the colon*. The reviewer, evidently, did not consider a similar error wonderful or materially derogatory to his character as a diagnostician, since he very candidly makes the following confession in a note to this case:

"At this moment there stands before our window, a healthy man, whom, many years ago, I gave up, as the victim of active dilatation of the heart, and who was subsequently cured, to our astonishment, by the aloes, spirit of ammonia, and bitters, of a sagacious empyric."*

On the other hand, aneurisms of the heart and large arteries, are doubtless often overlooked. Who does not remember the case of the lamented Liston, in whose body the examination post mortem, revealed an aneurism of the aorta as large as an orange; yet, during life Drs.

*Med. Chi. Rev., 1823, p. 469.

Watson and Forbes could detect no such organic lesion, and refused to admit its existence even when suggested by the sufferer?

The truth is, errors in diagnosis occur to all, and do not constitute any just cause of reproach, when the practitioner has conducted his investigations with care, commensurate with the importance of the disease, and aided by all the means at the command of the profession.

These errors of the truly eminent, however, render us exceedingly cautious in receiving extraordinary cases and wonderful cures, unaccompanied by such details, as will place us in a position to verify the correctness of the diagnosis; hence, we suggested that the report of Professor D.'s cases was too meager, to serve as a foundation for any practice—without details, the practice would be based on the *opinions* of the writer—with them, on *facts*.

On the subject of the bandage, as a remedial agent, we have little to say at present, having already exceeded our limits. We shall, doubtless, have occasion to allude to it frequently in the course of our strictures on the forthcoming essays of Professor D. We may say here, however, that, as far back as Galen, very particular directions were given for the application of the bandage in a great variety of diseases, and students were urgently pressed to practice its adjustment to the various parts of the sound body, or to a figure constructed for that purpose, in order that they might thus become expert in the use of an agent, for which they would have daily demands. For an excellent ancient account of the bandage, the material of which it should be composed, its application to "the treatment of wounds, fractures, luxations, amputations, and the like," we may refer the reader to Hiester,* who

*Gen. Sys. Sur., p. 262.

wrote early in the past century, in whose work may be found the importance of the bandage fully appreciated, and very minute practical instruction in regard to it given. He says: "they (bandages) are often medicines of themselves, being the sole application for the cure of the disorder; as in many fractures, luxations, hemorrhages," etc.

But Hiester does not pretend to be a leader in this matter, but refers to several elaborate works on the same subject, among which are those of Galen, Verduc, Le Clerc, etc.

We have no reply to offer to the unique and able argument of the analyst in support of that novel principle, "that inefficient pressure increases hemorrhage." What think our readers are these arguments? "Facetious critic," "ignorant, pert coxcomb," "most sapient reviewer," etc.; constitute the base, from which he rises on soiled pinion, to take a fancy sketch of the etherial nature of the vital principle; and most sagely concludes that as we cannot "bottle up a specimen" of this, therefore it would be impious to inquire in what manner inefficient pressure promotes the flow of blood from divided vessels. Well we cannot perceive the force of the argument or the legitimacy of the deduction, and do not feel inclined "to take off our shoes, and listen in reverence and in faith," because we do not believe that this constitutes any part of "the elementary teachings of the Great Master."

The analyst is now, in discharge of his professional duties, daily unfolding far more mysterious processes of Nature, and laboriously seeking to penetrate their "rationale," without any manifestation of that reverential awe which appears to have suddenly shed upon him its subduing and hallowing influence. Such a rhapsody from us, would probably have been treated as hypocritical cant—we regard it, in the analyst, as evidence of a pure and virtuous sentiment mis-applied. Such a limitation to philosophi-

cal investigation would, indeed, make short work of science, by dismissing all intermediate steps, and humbly referring everything to the final cause.

The gratuitous advice, of our self-constituted Mentor, we will take into grave consideration, and endeavor to profit by it. We are not old, we regret to say, we are not young, yet, such as we find ourself, we can say, in truth, that we are not inflated with any very exalted idea of our own ability or attainments—we know that we have none to boast of—and, therefore, we never exceed "a modest appreciation of our limited powers;" but, we are happily consoled by the reflection, that no extraordinary mental calibre is necessary to the successful execution of the self-imposed task of analysing the promised series of Surgical Essays, and we intend a faithful fulfilment of our purpose, unless prevented by more pressing and important engagements.

A "respectful consideration for the feelings" of Professor D. shall preside over every line we write, but we shall no more respect erroneous "opinions from men who were old in experience and in reputation, if not in years, when he (ourself) was a puling suckling" than if they emanated from a tyro just emerged from the green room. Indeed, it would be a manifest dereliction if we did not deal more harshly with the former, since their influence is far greater than that of the latter.

The last sentence of the analyst's advisory paragraph is too appropriate to himself; we must, therefore, beg to commend it to his serious meditation. Let him look again at the scurrility with which his analysis abounds—the low and vulgar expressions—the indecent allusions, etc., then "purify his conscience, and temper his feelings for the stern judgment which he must soon submit to, before Him who teaches that charity and brotherly love are the first of christian virtues."

And now in return for the good advice so kindly ten-

dered to us we beg to make an humble return, in kind. "Personal detraction" and villification are the weapons of low and vulgar minds, and are utterly unworthy the station you occupy, the talent you possess or the character you have heretofore sustained.

Facts and reason are the weapons of pure and cultivated intellects, and, when wielded in a just and righteous cause, never fail to force conviction and to ensure a complete triumph.

You are young and ardent; but time will teach you the vast difference between these two classes of weapons, and a little effort at self-control on your part, will enable you to use the one adroitly and effectively, and to reject the other with scorn and loathing; whilst experience will instruct you, that no sensible person will believe you possess the nobler if you persist in the use of the meaner.

One fact is worth a thousand terms of reproach, and a single good reason will weigh more with sensible and virtuous people than all the abusive words that mar the purity and beauty of our language.

Remember, that motives are hidden deep in the human breast, and whether just or vicious, He only, whose eye penetrates the heart, can divine. Take warning by the fact, which you cannot now but perceive clearly, that while you venture to misconstrue the motives of others, your own may be liable, with appearance of far greater probability, to the same uncharitable animadversion.

Learn, that perfection is denied to man—that to err is human, and fall not down before any mortal, uttering—thou art immaculate, thou art immaculate!

In conclusion, relying on the conscious rectitude of our purpose—the truth and force of our facts, and the precision and correctness of our deductions, we willingly obey the summons of our opponent "to the bar of public opinion, and await the verdict." C.

ART. IV.—*Lectures on the Diseases of Infancy and Childhood.* By CHARLES WEST, M. D., F. R. C.; Physician to the Royal Infirmary for Children; Physician, Accoucheur to the Middlesex Hospital; and Lecturer on Midwifery at St. Bartholomew's Hospital. 1 vol., 8vo., pp. 451. Philadelphia: Lea & Blanchard. 1850.

On the Diseases of Infants and Children. By FLEETWOOD CHURCHILL, M. D., M. R. I. A., Hon. Fellow of the College of Physicians, Ireland; Hon. Member of the Philadelphia Medical Society, etc., etc., author of "The Theory and Practice of Midwifery," "On the Diseases of Females," etc., etc. pp. 636. Lea & Blanchard. 1850.

A Practical Treatise on the Diseases of Children. By D. FRANCIS CONDIE, M. D., Sec. of the College of Physicians; Member of the American Medical Association, &c., &c. Third edition, revised and augmented. pp. 703. Philadelphia: Lea & Blanchard. 1850.

No better evidence could be given of the increasing attention that is paid to the diseases of children, by medical observers, than the appearance of three such works, as we have named at the head of this article, devoted exclusively to the diseases of early life. Nearly all other departments of practical medicine have received a due amount of contribution from authors; the diseases of children have been, to a considerable extent neglected. Maunsell and Evanson, Eberle and Dewees published works on the subject, but they neither commanded nor deserved the confidence of the profession. They bear on their pages, the indelible marks of the mere book maker, and are of but little use in the practice of medicine. They claim but little of a philosophical spirit, and possess no more than they claim.

The works before us are of a different order—each of them is a valuable contribution to medical literature, and deserves the attention of medical men. The principles inculcated in these volumes are based upon the present improved condition of medical science, and are the result of close and discriminating observation in widely extend-

ed fields for the acquisition of facts, and the observance of the phenomena of disease. Professor West informs us that his observations are founded upon nearly fourteen thousand cases; Dr. Churchill's opportunities have been great, and have been well improved, and Dr. Condie's admirable chapters show that he has been a close, vigilant and intelligent watcher of the diseased actions of childhood. In many respects we deem Dr. Condie's work the best of the three, for American practitioners. It is unnecessary for us to dwell upon the modifying influences exerted upon disease, by climate, habits of life, character of parents, modes of dress, the nature of food, and the condition of habitations. These circumstances are familiar to all well informed medical men, and should be correctly appreciated by all who attempt the practice of medicine. If we take the principles on blood-letting, educed by Dr. Marshall Hall from observations among the population of Manchester, and apply them to any population in the United States, we shall fall into deplorable and disastrous practices. In the London Hospitals erysipelas generally demands a stimulant treatment; in this country such treatment would be attended with serious consequences. Examples of a similar character crowd upon us, but it is unnecessary to dwell upon them. The fact, we are endeavoring to inculcate, is too palpable to need an extended illustration. Principles are invaluable, and always deserve attention; but we cannot be too careful in submitting the judgement to the rules that have been formed in, and that are adapted to a different state of things from what is found among the sick in this country. A child in one of the Western schools, on being called upon to define the difference between a principle and a rule, said a rule is the guide post that points out the road to the traveler, a principle, not only shows the road, but accompanies the traveler to his point of destination. The idea, contained in this lucid defini-

tion cannot be too forcibly impressed upon the attention of medical readers. The man who follows rules merely, degenerates into the practices of the routinist, and from that sinks into something worse. But he who accumulates principles, continually rises towards the most elevated regions of a noble art, and makes himself a blessing to humanity.

For the reasons we have given, we prefer the new edition of Dr. Condie's work on the Diseases of Children, to either of the others, but we must not be understood as disparaging the treaties of Drs. West and Churchill. They are valuable in their places; they deserve to be studied with care, and they command respect by the richness, plenitude and variety of their facts. What we have said on the subject of the superiority of Dr. Condie's work was said, in order to impress upon the reader the necessity of inquiring in what fields of observation a medical writer labored, because that inquiry is important in making up a judgement upon the character of the principles and rules that are inculcated. In London Dr. West's work would be more useful than Dr. Churchill's, and the work of the latter would be more useful in Dublin, than that of the former, and, by parity of reasoning Dr. Condie's would be more valuable in Philadelphia than either of the others.

We have examined these works carefully, and take pleasure in bearing testimony to their value. We feel no kind of disposition to use the critic's rod upon works that have afforded us more than ordinary gratification, and which are calculated to exert a beneficial influence upon the practice of medical readers. As an illustration of their value, when compared with the works of Maunsell and Evanson, Dewees and Eberle, we ask the reader to examine the subject of gangrenopsis in each of the works named at the head of this article, and then let him inquire of the other authors what they have to say upon

this frequent, distressing, deforming and fatal disease. Why it has entirely escaped the attention of many writers on the diseases of infancy we are at a loss to determine, for it occurs often enough to be a serious evil, and is fatal enough to arouse the most lethargic physician. The first case of gangrenopsis we ever met impressed itself too forcibly on our memory ever to be forgotten. A beautiful little girl was the victim, and the general impression of those who saw the child was that she was a martyr to salivation. We knew that it was impossible that the phagedenic ulceration could be the result of mercury, for the child had taken nothing of the kind for three weeks before the gangrenopsis showed itself, and the destructive peculiarities of that affection soon became so manifest, that all doubts on the subject were dispelled. The case terminated fatally. Within the past few weeks, we have seen another, in which there could have been nothing like salivation. Gangrenopsis, in this case, followed a severe attack of measles in a young subject. Ulceration commenced in the inside of the cheek, and rapidly traveled along the cheek and gums. The teeth were loosened by the gangrene, and were extracted by the child. The gangrenous ulcer afterwards attacked the left nostril, and speedily terminated the child's sufferings in death. All the treatment recommended by the authors was diligently pursued; more faithful nursing never was given, but despite of all remedies, most unremittingly applied, the disease traveled to its fatal issue with an unfaltering step. We have seen diseases of a most formidable character, but we know of none that we would not as lief meet as gangrenopsis. There seems to be but little pain attending its devastating progress; it sometimes sweeps along its fatal course with surprising rapidity, and at others pursues an intermitting career, pausing long enough to flatter the physician and nurses into hope, to be dispelled in the midst of an apparent fruition, and clos-

ing the scene in death, with as much certainty as the cases that proceed with greater celerity.

We are glad that the treatises before us have recognised, and given deserved prominence to this distressing affection. Each of the works gives a faithful portrait of the disease, and we commend our fellow-laborers in practice to the study of the chapters devoted to gangrenopsis. Many an instance of the disease has passed for salivation, where there was no kind of connection with that untoward practice.

We refer to this particular case as an example of improvement in the recent treatises upon the diseases of infancy. A multitude of other examples will spring to the view of the diligent reader of the works of West, Churchill, and Condie. We commend these works to studious practitioners, and with the commendation we urge a careful observation of facts, on the part of physicians. No particular excellence can be attained by a blind devotion to the works of others; each man has an eye, a mind, and a judgement that were given to him for his own use, not to be manacled by others. Nature opens her broad fields to all; her sun lights up phenomena for the eye of all who are disposed to look at them, and he is unjust to himself, who neglects opportunities of daily improvement. The bed-side is the proper place for the study of diseased actions; the books should be used only as lamps that shed their light around the patient.

The book of Dr. Churchill is noticeable for one singular fact: it is the first instance we know of, where a British writer has sought an American publisher. The work of Dr. Churchill was written expressly for Lea & Blanchard, and is very appropriately dedicated to Drs. R. M. Huston, Isaac Hays, and George Shattuck, jr.

ART. V.—*Principles of Human Physiology; with their Chief Applications to Pathology, Hygeine, and Forensic Medicine.* By WILLIAM B. CARPENTER, M. D., F. R. S., F. G. S., Examiner in Physiology in the University of London; Lecturer on Physiology at the London Hospital Medical School. Fourth American Edition. With extensive additions and improvements, by the author. With two plates and three hundred and four wood cuts. Philadelphia: Lea & Blanchard. 1850.

The unresting, unappeaseable inquiries of the mind in the science of physiology are making marked and decided progression. The man who may have known all that had been revealed forty or fifty years ago, and who is content to rest upon the acquisitions of that period, would, if he were to appear in an assembly of modern physiologists, be justly considered a fossil remain of science, and might excite no little inquiry as to the precise period of the eocene formation to which he might belong. If a pterodactyl were to flit around an assemblage of geologists, or an icthyosaurus were to walk into one of their meetings, the appearance of two such wonders would excite scarcely any more surprise, than the utterances of an ancient physiologist would among the modern cultivators of the science of life. Science has extended her domain so greatly, that she can now afford to be rigid in her demands. She asks for facts, not speculation; she seeks truth, and will not accept, in lieu of it, fine-spun theory, piebald declamation, jejune rigmarole, nor arrogant dogmatism. She holds no communion with him who blindly embraces solidism, and shows his devotion to truth by dexterously avoiding every tint and shade of humoralism. Nor does she any more readily extend her hand to him, who leaps into the depths of humoralism, and exhibits his love of truth only in a hatred of everything like solidism. The votaries of science must follow where she leads, and he who enters upon the paths that run through

her domain, must content himself to reach her temples, and drink of her fountains upon her own terms. The days of Whytte and Haller have gone; a new creation has dawned upon physiological science, and the new heavens and the new earth must be surveyed by the light that is "set in the new firmament." By this course alone can any man hope to count evenings and mornings as days.

When Cuvier first blazed a path through the regions of the animal kingdom, physiology began to awaken from the slumbers and darkness that had bound it. Inquirers rushed into the field, and light began to shine in the midst of the deepest gloom. All the phenomena of life were diligently observed, and as far down in the scale of living beings, that were open to the natural eye, as it was possible to go, the physiologist went. When this world had been thoroughly explored and conquered, the microscope was called into the field, and myriads of forms, unknown to natural vision, rose at once to view, and developed to the wonder-stricken mind a new world of interminable interest. When the mind sounded the profound depths of life, revealed by the microscope, and, linking vegetable with animal physiology, traced vitality from its manifestations in the humblest monad, through every grade of organism up to its perfection in man; when it looked narrowly into every form of life, and patiently, wisely, and carefully gathered facts from Nature's vast storehouses, physiology began for the first time to assume the dignity and character of a science. The worn-out tissues of a bye-gone age were rolled up as an old garment, and delivered over to the things that belong to decay.

What a world of enlightenment is open to the diligent and careful microscopist! The microscope is fast rising into a necessity to the perfection of the physician. It is becoming essential to the anatomist, physiologist, and pathologist, and is destined to play an important part in the

investigations of each. We shall not now insist upon the importance of this instrument, for its development requires more space than we can now devote to it, but this much we can say, the use of the microscope will amply repay any cultivated mind in the enjoyment afforded by an examination of the world of singular beauty revealed by that instrument, independently of any practical benefit that may be derived from it. A philosophical and keen-sighted poet has said with truth,

"A thing of beauty is a joy forever,"

and the microscopist will feel this truth constantly rising before him, as the infusorial and zoophytic world display their wondrous forms upon the field of vision in his instrument. A cultivated and tasteful mind might feast for weeks upon rotophers and vorticellæ alone, but these constitute but a minute portion of the joys in store for the microscopist. There is an education of the eye for the use of this instrument, which a physician should speedily endeavor to acquire. He cannot too soon undertake to investigate all the phenomena of diseased action that can be brought within the compass of the microscope, and we feel that we are on safe ground in saying that diagnosis is ultimately to receive no ordinary degree of accuracy from the revelations of the comparatively new instrument of which we speak. Of one thing we feel very sure; it is impossible to teach anatomy or physiology successfully without the use of the microscope, and it is very difficult for the student to acquire either, without it. It would be as easy to teach the multiplication table without the digits, as to impart the elementary truths of physiology without the microscope.

The work before us owes much of its excellence to the researches of the microscope, and we feel it incumbent upon us to urge the importance of this book upon the attention of medical readers. A good deal of the present edition has been prepared expressly for the American

publishers. Dr. Carpenter says: "The principal changes will be found in the portion of the work which treats of the nervous system; and in the chapter on generation.—The former has been rendered necessary by the progress of the author's own inquiries, which have led him to relinquish certain parts of Dr. Marshall Hall's doctrines, long advocated by himself, and to substitute what he believes will be found a far simpler and more consistent view of the constitution of the cerebro-spinal centres, which may be said to be essentially based on the doctrines of Messrs. Todd and Bowman, though differing from them in some important particulars. * * * * The alterations in the chapter on generation, have chiefly consisted in the substitution of the views of Bischoff, with respect to the development of the ovum, for those of Dr. Barry; the author having satisfied himself that the latter are no longer tenable, whilst the statements of the former, though imperfect in many important particulars, are, on the whole, deserving of the credit which he had previously accorded to Dr. Barry's observations."

"Numerous other additions and alterations, which, taken collectively, constitute no inconsiderable amount of matter, are scattered through the treatise; their importance being greatest, however, in the chapter on the primary tissues, and in that on nutrition."

These quotations will serve to indicate the important character of the changes to be found in this fourth American edition. These changes contribute greatly to the perfection of the work, and make it one of the most complete works of the kind before the American public. The chapters devoted to an examination "of the place of man in the scale of being," "of the elementary parts of the human fabric;" in the latter of which, the whole cell system is most lucidly and thoroughly expounded—"the functions of the nervous system," "on nutrition," and "on

generation," are models of philosophical research and analysis.

There is an error on the subject of superfetation, which we may as well correct. Dr. Carpenter says: "In the slave States of America, *it is not uncommon* for a black woman to bear at the same time a black and a mulatto child; the former being the offspring of her black husband, and the latter of her white paramour." Now we think this is rather an uncommon event in the slave States of America. It occurs more frequently than the creation of a world, but not as often as a Philadelphia riot.

In the appendix, the reader will find in the remarks on phrenology, some evidence of that unresting, unappeasable spirit of inquiry, to which we have referred. Some years ago, the learning, eloquence, abilities, energy and zeal of Gall and Spurzheim introduced a system which was called phrenology. The two illustrious Germans travelled over the earth, making converts wherever they went. The system of phrenology stood, apparently, on impregnable grounds, and it grew quite as much through the weakness of its opponents, as by the strength of its advocates. Observation and partial examinations of comparative anatomy seemed to give character and coherence to the views promulged by Gall and Spurzheim, and in the then existing state of knowledge, it was found impossible to find facts subversive of the fundamental truths of the new science.

But it is now evident that the claims of Phrenology cannot be reconciled with an extended knowledge of comparative anatomy, and we are compelled to make great modifications in what was formerly considered beyond the reach of cavil. Dr. Carpenter expresses himself on these subjects in a very becoming spirit, and we commend his remarks to the attention of our readers. He says: "his objections to the *present system* of phrenology are based

only on the very imperfect manner in which it has been constructed; the foundations on which it rests being (in his opinion) of a very insecure character; and the superstructure having been built up of the slightest possible material."

"The present system of phrenology is altogether inconsistent with well ascertained facts, regarding the comparative anatomy and embryological development of the cerebrum. It is clearly established by anatomical research, that the *posterior* lobes of the cerebrum are relatively much smaller in the quadrumana than they are in man, and that they disappear altogether in the carnivora, not a vestige of them being discoverable in any of the lower mammalia; and that the *middle* lobes, though they may be traced in the lowest of the mammalian class, are altogether wanting in birds, reptiles, and fishes. The cerebrum of these animals, therefore, is the rudiment of the *anterior* lobe only of that of mammalia. Further, it has been lately shown by Prof. Retzius (whose researches on this head are confirmatory of those of Tiedmann, at the same time being more full and precise), that the development of the cerebrum of the human embryo takes place on the same plan. * * * * * The exact mutual confirmation afforded by these two sources of knowledge, proves the complete inadmissibility of the ordinary phrenological interpretation of the increased development of the posterior lobes in man,—namely, that they are present in all vertebrata, but that they are pushed backwards in the higher forms by the increased development of the anterior portion of the cerebrum. Now, as the instincts and propensities are located, according to the present system of phrenology, in the posterior and middle lobes of the cerebrum, which are altogether wanting in the oviparous classes, in which these instincts and propensities most strikingly manifest them-

selves, it would appear that some fundamental error must exist in the allocation."

Passing over the series of objections, under the third head, we come to those contained under the fourth. Dr. Carpenter says: "The present system of phrenology leaves undetermined a very large proportion of the cerebral surface in man,—probably not less than one-half; namely, the whole series of convolutions covering the opposing median surfaces of the hemispheres, the convolutions of nearly the whole of the base of the cerebrum, and those of the fissure of Sylvius. Yet not the slightest ground can be adduced for the supposition that these unappropriated portions have any less participation in the operations of the intellect, the exercise of the moral feelings, or the influence of the animal propensities, than have the external and superior portions of the respective lobes. No admission of the imperfection of the present system of phrenology can be a sufficient explanation of this fact, which would seem to indicate some fundamental error in the method employed; since one of the great claims which is set up in behalf of that system is the completeness of the system of psychical philosophy which it presents; so that if there were every facility for observing the relative development of the parts of the cerebral surface in question, there would seem to be no "organs left to distribute over it."

These objections are fatal to the present system of phrenology, but not, in our judgement to the fact that the brain is the organ of the mind.

We commend Dr. Carpenter's work to the serious study of our readers. It is full of invaluable instruction, and deserves the closest study that can be given to it.

ART. VI.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. II. Philadelphia: Printed for the Association, by T. K. & P. G. Collins. 1849.

This ponderous tome, consisting of nearly one thousand pages, has reached us at a time when we have but little space for doing much justice to its merits. Its contents are of no ordinary value to the American physician, for they are made up of matter that concerns his practical duties, and are contributed by physicians who are scattered over the various regions of this Confederacy, and who are thus enabled to pour out the treasures of experience from every quarter of the Union. The transactions of this association are so interesting, that we feel it to be our duty to present our readers with a copy of the table of contents, so far as to embrace the practical material of the work. The following reports were submitted:

A.—*Report of the Committee on Medical Sciences.*

B.—*Report of the Committee on Practical Medicine.* 1. On the more prevalent diseases of Swedsboro', New Jersey, and its neighborhood, during the year 1848. By J. F. Garrison, M. D. 2. An account of the dysentery, as it prevailed in Cambridge, Massachusetts, in the years 1847 and 1848. By Worrill Wyman, M. D. 3. On bilious fever, as it prevails in the eastern portions of New Jersey. By J. Fithian, M. D., of Woodbury, New Jersey. 4. On erysipelas, as it prevailed in the eastern portion of New Jersey; with some remarks on erysipelas of the respiratory mucous membrane. By J. Fithian, M. D., of Woodbury, New Jersey.

C.—*Report of the Committee on Surgery.*

D.—*Report of the Committee on Obstetrics.* 1. Case of retroflexion of the uterus. By A. C. Post, M. D., of New

York. 2. Case of the same. By B. W. McCready, M. D., of New York.

E.—*Report of the Committee on Medical Education.* 1. The views of the medical faculty of Harvard University relative to the extension of the lecture term. 2. Report of the special committee appointed to prepare "a statement of the facts and arguments which may be adduced in favor of the prolongation of the courses of medical lectures to six months."

F.—*Report of the Committee on Medical Literature.*

G.—*First Report of the Committee on Public Hygiene of the American Medical Association.* Report on the sanitary condition of Concord, New Hampshire. Report on the sanitary condition of Portland, Maine. Hygiene of New York city. Sanitary condition of Philadelphia. Public hygiene of Massachusetts; particularly of the cities of Boston and Lowell. Sanitary condition of Baltimore; Charleston, South Carolina; New Orleans, Louisiana; Louisville, Kentucky; and of Cincinnati. The yellow fever quarantine at New Orleans. On the influence upon health of the introduction of tea and coffee in large proportion into the dietary of children and the laboring classes. By S. Jackson, M. D. On the introduction of water and gas into cities. Letter from the Chief of the Bureau of Medicine and Surgery, Navy Department, on the use of disinfectants in the navy.

H.—*Report on Adulterated and Sophisticated Drugs.*

I.—*Report on Indigenous Medical Botany.* On indigenous medicinal plants of South Carolina. On the indigenous medicinal botany of Massachusetts.

We have thus given a glimpse of the character of the labors of the American Medical Association. The reader cannot fail to see from the above table, the extent, scope and design of the annual meeting of this association, and he may reasonably infer that the labors of such a body are of a character to elevate, improve and advance the

medical profession. It is the bounden duty of every physician, who feels any interest in these things, to contribute towards the success of the association, and to labor to perpetuate the existence of this national congregation of physicians.

Those who are desirous of obtaining copies of the volumes published by the association can do so on the following terms: The second volume, the one before us, is furnished in paper covers, at $3 per copy, and in muslin binding at $3 50. Societies which have been represented in the association, will be furnished copies for their members on the following terms: three copies of volume II, in paper covers, for $5 00; three copies of volumes I and II, for $8 00. The amount must be remitted to Isaac Hays, M. D., Philadelphia, treasurer of the association, in par funds.

The next meeting of the American Medical Association will take place in May, 1850, in Cincinnati, Ohio, and we hope the West and South will be largely represented on the occasion.

We are indebted to the courtesy of Messrs. Beckwith & Morton for copies of the various works we have noticed in the present number.

THE WESTERN JOURNAL.

THIRD SERIES.—VOL. V.—No. II.

LOUISVILLE, FEBRUARY 1, 1850.

THE REVIEWER OF PROFESSOR DUDLEY'S ESSAYS.

We have received an excellent paper on the surgery of gun-shot wounds, from our able correspondent, "C." It shall appear in the March No. The writer has prepared a remarkably interesting sketch of the history of military surgery, and our readers cannot fail to be pleased and instructed by it.

KENTUCKY SURGERY.

It is pretty generally known in this country, that whatever credit is due for the introduction of the operation of exsection of the human ovary, belongs to a Kentucky surgeon—Dr. Ephraim M'Dowell. Mr. Lizans attempted to rob the Kentuckian of this honor, but the evidence adduced by Dr. M'Dowell in favor of his priority, was conclusive.

In the New Orleans Journal of Medicine and Surgery, we find a paper from the pen of James H. Johnson, M. D., of New Orleans, late Professor of Surgery in Franklin Medical College of Missouri, which conclusively establishes the fact, that a Kentucky physician preceded Dr. Mott in "the exsection of the clavicle, for osteo-sarcoma," a piece of surgery, which Dr. Mott has dignified with the title of "Mott's Waterloo Operation," and says he claims the credit of it "for

his country, his city, and himself." But Dr. Johnson establishes the fact that Dr. Charles M'Creary, of Hartford, Kentucky, preceded Dr. Mott, in this operation, fully seventeen years. Dr. Mott reported his case in the "American Journal of the Medical Sciences," for November, 1828, and Dr. M'Creary had exsected the clavicle, for osteo-sarcoma, on the 4th day of May, 1811, and Dr. Johnson says: "The method adopted by Dr. M'Creary was almost similar to Prof. Mott's."

If Dr. Mott thought proper to claim credit for "his city and himself" for originating the operation referred to, it cannot be improper for us to vindicate the claim of a Kentucky surgeon to this originality. The Kentuckian deserves more credit than Dr. Mott could reasonably claim, for the New Yorker, in 1828, had all the appliances for such an operation, as the exsection of the clavicle, in a degree of much greater perfection, than the Kentuckian had in 1811.

AMERICAN SURGERY.

In the American edition of the London Lancet, for January, we find a report, of an introductory lecture delivered at the London Hospital, by Dr. Letheby, in which that gentleman uses the following language, in reference to the labors of American surgeons: "our brethren upon the new continent had this year published their first annual report on the condition of the medical sciences in that country; and while he agreed with the reporter when he states that the great *forte* of American medical scholarship has hitherto consisted in editing the works of British authors, that the fairest fruits of British genius and research are shaken into the lap of the American student, and that the creative energy of that country shall manifest itself in generating a race of *curculios*, to revel in voracious indolence on the products of a foreign soil, yet he could not place a like amount of faith in many of the exaggerated statements which are there put forth, and he illustrated this by a reference to American lithotomy practice, which showed an average mortality of only three per cent., that of British practice being about fifty!"

Passing over the ill-tempered and unjust allusions to American medical literature, with the single remark that we know of but few English works, of the best class, that have been edited in this country, which were not materially improved by the American editor—Cooper's Surgical Dictionary, for example—we take up the gratuitous and unfounded imputation on the veracity of American surgeons, in reference to lithoto-

my practice. It is hard, we admit, for a British metropolitan surgeon to understand how an American surgeon can be much more successful than one of the parent stock, but surely some better way might be found for examining the matter, than an unfounded assault upon the veracity, honor, and integrity of a class of men who have no superiors on the earth for truthfulness and uprightness. Why should American surgeons be any more likely to be guilty of dishonorable and degrading practices, in their profession than English surgeons? Why should it be imagined that the Warrens, Motts, and Gibsons of the United States are more prone to exaggeration, or falsehood, than the Stanleys, and Lethebys of London? The American public would speedily understand the resort to improper arts, and would administer a rebuke to such conduct that would not be forgotten. We should think that Dr. Letheby would have been more honestly and professionally employed, if he had endeavored to ascertain the causes of the greater success of American surgeons, in lithotomy, instead of calumniating a set of men who are quite as incapable of a dishonorable deed as he is. The fact which he endeavors to impugn is fixed too firmly to be shaken by sneers and inuendoes.—Death from lithotomy is very rare in this country, and scarcely amounts to three per cent. The particular surgeon at whom Dr. Letheby aims his shafts, has unquestionably been the most successful surgeon of the day, in lithotomy, and deserves admiration, rather than calumny. He practices in a community, where every case in his hands is known to numbers of citizens, and it would be impossible for him to exaggerate his success, without detection. He has enemies enough to emblazon his failures, if there were many to point at. We lived in the community where he practices, for a quarter of a century, and during the time he was occupied in a large proportion of his operation, and we feel sure that we knew of every case he operated upon, and of every loss. As far as our word can corroborate the statements of that distinguished surgeon, we bear testimony to the fact, that it is his great success that has made the average per cent. of loss, in American surgery, so very diminutive, when compared with British surgery.

French surgery, true to the instincts of professional advancement, when it heard of Chesselden's success in lithotomy, sent Morand over to England, under the authority of the French Royal Academy of Sciences, to learn from Chesselden his method of operating. This was a much more honorable and *improving* course than the one Dr. Letheby has preferred for his action, and he might improve his surgery by follow-

ing the example set him by the French Academy. A little investigation would teach Dr. Letheby, that British surgery has lost ground since the days of Chesselden. Dr. Letheby admits that there is a loss of fifty per cent., in British lithotomy, but it was not so in the hands of Chesselden, after he improved himself into his third method of operation.—He lost four out of ten patients, under his first method, and determined to improve himself, and by the third method he adopted, he saved fifty patients out of fifty-two, in St. Thomas's Hospital. Did Chesselden exaggerate, or has British lithotomy retrograded? When Sharpe was in Paris, in 1702, Frère Jacques had cut thirty-eight patients, without losing one. In view of such facts, where is the sense or propriety of Dr. Letheby's sneer at American surgery? Why not inquire why American surgery is so very sccessful?

MEDICAL MEN'S PER CENTAGE ON PRESCRIPTIONS.

Our keen and vigorous contemporary, of the New York Scalpel, makes use of some severe and denunciatory remarks on the practice of those physicians, who accept from apothecaries a per centage on prescriptions, and we fully concur with Dr. Dixon in his condemnation of this disgraceful and degrading practice. We know of nothing that should more promptly expel a man from the intercourse of the medical profession, than such a practice as this. Dr. Dixon says: "In some instances the per centage amounts to one-half! in none, we believe, is it less than a third! certain cabalistic signs being appended to the written prescription to show whether the patient will bear a high charge. What the result of this truly demoniacal arrangement must be, we suppose its bare mention will make apparent to the meanest intellect. For fear, however, any one should not understand us, we simply remark, that the more physic they take, the better for the doctor."

Against this iniquitous practice, we think every man who feels any interest in the elevation of the medical profession, should declare relentless war. It should be put down as all other serious wickedness is, and any man guilty of it should be no more countenanced, than if he were guilty of other heinous offences. It is humiliating to confess the fact, but we have known of instances where it was the apothecary who had too much honor and pride of character to enter into the arrangement we are denouncing. The physician was ready, willing, and urgent. We wish Dr. Dixon success, in putting down the practice he describes under the

title of "Per-centage on Prescriptions." A physician should recommend his patients to send their prescriptions where *they* will be best served, not where *he* will make an addition to his fees.

THE MEDICAL SOCIETY OF MONTGOMERY COUNTY, TENN.

We received, some weeks ago, an excellent paper, read before the above Society, by Dr. E. B. Haskins, "On the Diagnostic Value of the Urine." We hoped, at one time, to publish it in this number, but were compelled to postpone the publication, on account of matters of a more pressing character. The essay will appear in the March number, and will be read with interest.

TYPHOID FEVER IN ALABAMA.

The New Orleans Medical and Surgical Journal, for January, contains two excellent letters on the existence of typhoid fever in Alabama, —one by W. B. Johnson, M. D., on the diseases of Marion, Alabama, the other by C. J. Clark, M. D., of Jacksonville, Alabama. It seems to us that these two writers perfectly understand what they are describing, and they fully prove the existence of typhoid fever in those regions of Alabama, in which they respectively practice. Both writers show a discriminating judgment, and we rely implicitly on their statements.—Dr. Clark, especially, sustains himself with perfect fullness, and if the cases he describes are not instances of typhoid fever, nothing of the kind has ever been seen. They resemble that disease as it has been depicted by Louis, Gerhard, and Bartlett, three names that constitute a tower of strength, of an unimpregnable character, on the subject of typhoid fever. We have not often seen a better medical letter than that of Dr. Clark's. It is full, clear, and philosophical.

In allusion to a former letter, on the existence of typhoid fever, Dr. Clark says: "In my letter to Dr. Lewis, speaking of the prevalence of this fever, in this year, (1840), I said it attacked '*indiscriminately all ages*, without regard to sex or color.' This expression was carelessly made, and put into that particular language rather to 'round a period,' than express accurately a fact. The idea intended to be conveyed was, that I had seen typhoid fever occurring in children, adults and old persons, in males and females, and that both blacks and whites had been subject to it." In reference to the treatment received by him for writ-

ing this careless sentence, Dr. Clark says: "This unfortunate sentence was quoted and requoted," by a reviewer, "to invalidate the writer's testimony as to the existence of typhoid fever in this part of the State, in a manner that might do well enough for a distressed critic, but not for the candid inquirer after truth." That term, "distressed critic," exactly expresses the idea; its author must have served a time at the art of driving nails, from the dexterity with which he has driven this one home to its place.

We have seldom read medical articles of more interest than the letters to which we have referred. They were conceived in an admirable spirit, and executed with fidelity.

POSTAGE ON SCIENTIFIC JOURNALS.

Of all the abominations of the present system of American postage, none seems to us more perfectly wrong than the tax imposed upon scientific periodicals. The very erroneous doctrine, that the Post Office Department must pay its own expenses, which has always governed the postal arrangements of the general government, is the root of the evil. The immediate error of action, springing from this doctrine, is found in the distribution of the tariff on mail matters, by which newspapers are carried at a loss to the department, and letters, literary magazines, and scientific publications are required not only to pay for their carriage, but to make up the losses sustained from the diminutive rates charged on newspapers. What shadow of reason is there for making scientific periodicals pay exorbitant postage on their exchanges, that is not equally imperative on the newspaper press, which pays no postage on newspa paper exchanges?

A great and beneficent reform in the entire machinery of the Post Office Department is in progress, and it behooves all those interests that feel the wrongs of the present system, to speak out. The principles on which the General Post Office should be made to operate, is one that is vital to the welfare of the people: it is, that intelligence shall be distributed to all parts of the country alike; and on the same terms, so that a beggar may be placed, by the action of the government, on a footing of equality with the millionaire in the enjoyment of intelligence. This is the principle on which the British Post Office has been working for nearly ten years, and the results have been of the most beneficent character. That Rowland Hill's system would work as effectively in this

country may be proved by a reference to some of the prominent facts in that system, and the American plan of operations. The management of the British Post Office costs $6,712,368—that of this country costs $4,346,850. The cost of transportation in Great Britain is $2,229,763, while in the United States, notwithstanding "the immense distances traversed by our mails," the same service costs $2,448,756, only $210,983 more."*

Our cotemporary of the Southern Medical and Surgical Journal urges the scientific journals of the United States to efficient action in effecting a reform in the postage tariff of exchange journals. We should not rest at that: it is the bounden duty of Congress, not only to effect that reform, but to encourage the distribution of scientific intelligence among the people. To say nothing of other beneficial effects of the general distribution of scientific truth among the people, it will be admitted that when the great mass of the people of this country is thoroughly imbued with a knowledge of geology, scientific agriculture, and the principles of public hygeine, health, prosperity, peace and virtue will be the fruits of these gifts. These are a part of the objects for which the scientific journals of this country labor, and it is upon such labors that our wise statesmen lay their heaviest burdens. The increased prosperity of the people, arising from accurate knowledge of public hygeine, would more than compensate the general government for carrying scientific journals in the mails gratis.

We join the Southern Medical and Surgical Journal in urging on the editors and proprietors of all scientific journals in the country, the necessity of making an immediate effort in this special postage reform, of which we have spoken. Each Journal should at once address itself to the chairman of the Post Office Committee, and endeavor to have the feature, referred to, introduced into the Post Office bill.

THE MEDICAL JOURNAL FOR MARCH.

The numerous readers of this Journal will be gratified by the information we give them, that Prof. Bartlett is preparing an article for our March No. His paper is on a subject that is exceedingly interesting in itself; what it will be in his hands, it is scarcely necessary for us to say.

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* Hunt's Merchant's Magazine.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

MARCH, 1850.

ART. I.—*The Diagnostic Value of the Urine.* A Paper read before a meeting of the Montgomery Medical Society, held at Clarksville, Tenn., Nov. 3, 1849. By E. B. HASKINS. Published by order of the Society.

Within the last few years, many valuable aids have been furnished the medical practitioner in rendering his diagnosis more certain, and, consequently, his treatment more rational and efficient: amongst the most important of which may be mentioned, auscultation, mediate and immediate; utero-vaginal exploration with the speculum, and physico-chemical observations upon the blood and urine.

These three important diagnostic agents, having been directed to different departments of semeiological investigations, extend almost over the entire field of patholo-

gical inquiry. Auscultution and utero-vaginal exploration seem to be fully understood and appreciated by the profession at large. So much so, that it is seldom a medical man is met with, who has not, either at home or in his pocket, both a stethoscope and a speculum. The same, however, cannot be affirmed of the other means of diagnosis—the test-tube and gravemeter, though equally valuable, equally portable, and of equal applicability, are seldom or never to be seen. It is this comparative neglect, by the profession generally, of so important a key to the seat and nature of morbid actions, that has determined me to discharge my obligation, on the present occasion, by offering some reflections upon the diagnostic value of the urine.

In order to a just conception, and proper appreciation of the relations of the renal secretion to *morbid* actions, it is necessary first to take a view of the sources and nature of that secretion, and its relations to *healthy* actions. Such a view, however, in the narrow limits assigned to this paper, can only be *general*, and imperfect in detail.

The entire bulk of ingested matter, water excepted, that is digested and absorbed into the circulation of man and the higher order of animals, belongs to one or the other of two great divisions of alimentary substances—nitrogenous, and carbonaceous—and each is destined to ultimate solution in the organism in subservience of the ends of organic and animal life. The former, or nitrogenous substances, first enter into *vital* connection with the living tissues, and subsequently dissolve in giving rise to certain phenomena, as muscular contraction, and the various active demonstrations of the brain and nervous system; the latter, or carbonaceous, enter directly into combination with the oxygen of the inspired air, giving rise, in the course of the circulation, to the phenomenon of animal heat. Along with these substances, certain minerals enter the circulation for certain ends not ne-

cessary to mention here. Notwithstanding this is the destiny of the larger portion of the absorbed alimentary matter; yet there is a portion of both the nitrogenous and carbonaceous that is unappropriated, and is, therefore, cast out of the system, along with the decayed matter, as superfluous.

Now, these two great classes of effete and superfluous substances, corresponding in chemical constitution with the absorbed materials, are respectively provided with eliminating or depurating organs: the nitrogenous, with the skin and kidneys, and the carbonaceous with the lungs and liver.

But these alimentary substances do not pass out of the economy in the same form in which they entered it. The carbonaceous, as oils, starch, gum, and sugar, are mostly reduced in the organism to carbonic acid and water, which escape mainly by the lungs, and that which is not thus reduced, (or, for a time deposited as fat in the adipose tissue) being eliminated by the liver in the form of fatty acids, in combination with alkaline bases. The nitrogenous substances, as albumen, fibrin, &c., on the other hand, are, for the most part, eliminated by the kidneys in the form of urea, uric and hippuric acids, &c. There is every reason to believe, also, that some portion of the effete nitrogenous substances pass off by the skin. Nearly all of the water entering the system, as well as that which is generated in the economy, finds egress by the skin, lungs, and kidneys, respectively.

It will now be seen at a single glance, that these depurating organs are closely and constantly related to every tissue in the animal body, and thus their functional products are alike related to every vital as well as chemical action in the organism. This being the case, then, it must be obvious, that, independent of observations, any deviation from a physiological state in the organs of assimilation, must produce a corresponding deviation in those of secretion and excretion.

The exhalations of the *skin* and *lungs*, for the want of means of readily collecting a sufficient quantity for analysis, can never be of great value for diagnostic purposes. The *bile*, as it reaches the eye of the observer, having traversed the entire length of the intestinal tube, being mixed up with the secretions of the mucous follicles, the gastric and pancreatic juices, the remains of various kinds of aliments, and with gaseous products—can, at best, only furnish a clue to the degree of activity of the hepatic function.

The *urine*, however, is clear of all those objections and difficulties. It is secreted and emptied into a capacious receptacle, and there remains, free from material change, until enough is collected for analytical purposes; and the passage, through which it is discharged, is short and free from foreign matter.* But we are not left to *a priori* reasoning, to establish the *diagnostic value of the urine*—we have observation and experience as ample upon this subject as any other in the whole scope of medical science. There has, perhaps, no class of diseases been more fully and satisfactorily elucidated, and by more able and trustworthy men, than that class which makes a notable impress upon the renal secretion; and from the increasing interest given to physiology and pathology, by the agency of chemico-microscopy, no class of diseases presents a more hopeful prospective view.

Then, in order to present in the strongest light, the claims of the urine to the careful inspection of the diagnostician, I propose, hastily, to consider the most prominent of those diseases under two general divisions:

1. *Diseases that cannot be diagnosed without the aid of the urine.*

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* Menstrual fluid and vaginal mucus may, sometimes, produce deception in the urine of females; but with a little care they are easily avoided.

2. *Diseases that may be diagnosed, but not so clearly, without that aid.*

I will here take occasion to state, once for all, that only so much of the history, symptoms, and pathology of those diseases, and the constitution of the urine, will be noticed, as has direct reference to the object of this paper, which, is simply to urge the *value of the urine as a diagnostic agent*, without aiming to instruct in its practical application.

I. The first division embraces that interesting class of diseases usually denominated urinary; the most important, and those which will claim our attention, being diabetes (melletus), albumenuria, the various sedimentary and calculous affections, Bright's disease, and inflammation of the mucous membrane of the urinary passages.—Notwithstanding these diseases are termed urinary; yet it should be remembered, that all of them, with a few exceptions, are dependent for their existence upon some remote organic or functional affections. These primary affections, however, being mainly deduced from the state of the urine, and not presenting any other constant sign or symptom by which they may be known, have not, as yet, determined the *name*, though they may have suggested the treatment.

1. *Diabetes* is defined by Dr. Prout to be "a disease in which *a saccharine state of the urine* is the characteristic symptom."* Dr. Christison, on the other hand, denies that the mere presence of sugar is enough to constitute the disease, and adds—*with great tendency to emaciation and suppressed transpiration*.† This author, however, admits that "the presence of sugar in the urine is by far the least variable of the phenomena which have been

* Prout on the Stomach and Renal Diseases. † Tweedie's Lib. of Prac. Med. Art. Diseases of the Urinary Organs.

hitherto carefully studied." As a definition can never express the exact nature and limits of a disease, but that definition being best, which answers the best practical ends, I can see no objection to Prout's. If sugar be found in the urine, every prudent practitioner would use those remedies adapted to diabetes, whether emaciation or dryness of skin be present or not; and if there be no sugar, of course the case could not be regarded as *diabetes*, unless the absence be only occasionally and temporary, and then its absence would in no way influence the diagnosis or treatment.

Various hypotheses have been offered, relative to the pathology of diabetes; but by far the most numerous and respectable authorities of the present day, refer the pathological *vice* to the assimilating functions, and not to the kidneys.

But as to the precise *seat* and *nature* of this vice, and the immediate source of the saccharine matter, authors do not fully agree: and perhaps will not, until further researches have more fully developed the laws of healthy and morbid actions.

Berzelius, (On the Kidneys and Urine,) considers the disease to "consist in a mal-assimilation of protein substances, from which, in healthy conditions of the body, urea is formed, but which in diabetes are converted from unknown causes, into sugar, ammonia, and, perhaps, an azotic extractive matter." Simon (Chemistry of Man,) has no doubt, from the extraordinary quantity of sugar excreted by those patients restricted to an animal diet, but *that the sugar is formed from the protein compounds.*— Dr. Maitland (Lond. Med. Gaz., May, 1840,) remarks that "the stomach, in diabetes, has the property of forming sugar from animal as well as from vegetable food." On the other hand, Dr. J. O. Rees (Manual on the Blood and Urine,) would seem to favor the opinion of the derivation of the sugar from saccharine and amylaceous

food alone, and that the primary lesion may be found in the stomach. He gives considerable weight to the experiments of M. Mialhe, showing the power of the saliva, of converting starch into dextrine. Prout, it is well known, teaches that the sugar in diabetes is derived from a morbid state of the saccharine assimilating functions—that "the *reducing* function of the stomach is, for the most part, morbidly active, while the *converting** function is more or less suspended or paralyzed." He further suggests, that in the advanced stages of diabetes, sugar is derived from the gelatinous, and, perhaps, albuminous and oleaginous tissues, during the secondary or destructive assimilation. M. Bouchardat, (Braith. Ret. part xv.) whose observations have been extensive, has invariably found "that the quantity of sugar contained in the urine was always in a direct ratio with that of the bread or the feculent, or the saccharine food they had taken in the twenty-four hours." But amidst this want of agreement, amongst writers, as to whether or not nitrogenous matters may be converted into diabetic sugar there is scarcely any lack of agreement as to the more ready convertibility of sugar and fecula into that substance, and that therefore a knowledge of the saccharine nature of the urine is all-important to the diagnosis and treatment of the disease. Observations, too, have fully sustained the efficacy of the rational indications of treatment, for, observers most invariably agree as to the controlability of the quantity of glucose discharge, by confinement of the patient to an animal diet. Upon this subject, Dr. Rees remarks that "the general belief that diabetes is necessarily a fatal disease, has, in all probability, arisen from

* Dr. Prout, it will be remembered, teaches that saccharine principles, as starch, &c., are converted, by primary assimilation, into albuminous and oleaginous principles, and this is the *converting* function here alluded to.

the circumstance that it was formerly seldom detected until far advanced, and beyond the reach of remedies.—Attention having been of late, however, more actively directed to the general subject of urinary disease, cases are earlier detected and subjected to treatment; and it now occasionally happens that we meet with patients with a well authenticated and old diabetic history, who, on examination, show no signs of diabetes, appearing to have been permanently cured," &c. "If the amount of this saccharine or feculent food be diminished," says Bouchardat, "the proportion of urine excreted, and of sugar contained in it, will diminish in a corresponding degree. By suppressing, almost entirely, the use of this kind of food, the urine gradually becomes natural, both in quantity and composition."

2. *Albuminuria.* The next constitutional, or functional disease, to which I will advert, as depending upon the urine for diagnosis, is albuminuria. It was, some time after the researches of Dr. Bright, proving the coexistence of serous urine and certain organic changes in the kidney; before the profession began to regard albuminuria as a urinary disorder, apart from organic affections of the kidney; but observations have been so numerous on this point, as scarcely to leave an advocate for the identity of the two diseases. Prout says: "that in some individuals the urine is liable to become albuminous from certain derangements of the system in general, and of the kidneys in particular, which cannot at present be otherwise defined than as *functional* derangements." Dr. Graves (Lond. Med. Gaz., October. 1839,) contends that *the albuminous state of the urine is the cause of Bright's disease, and not the consequence.* Dr. Rees has been led to regard albuminuria as connected primarily with a degeneration of the blood, *the kidneys being the first link in the chain of causation, so far as the solids are concerned.*—Many other respectable authorities might be cited upon

this point, but enough has been said to show that there is disease attended with an albuminous state of the urine, that cannot, with the present state of knowledge, be referred to any organic lesion, and is attended by no other constant sign or symptom, by which it may be recognized; and although it may be granted—as has been contended by some, and with great plausibility, too—that the kidneys are in a state of congestion or hyperemia, whenever albumen is found in the urine; yet as that congested state of the kidneys may be subsequent to a more general derangement, and in every such case, can only be assumed from the state of the urine, the diagnostic value of that secretion will not be lessened on that account.—But, allowing whatever disagreeament we may, as to the true pathology and proximate cause of albuminuria, there seems to be no disagreement as to its revealing a condition of the organism, that, if not promptly attended to, sooner or later terminates in renal degeneration, dropsy, and death—that it at least discloses a *dyscrasy*, or incipient constitutional depravity, that requires a careful protection against every species of exposure and intemperate living; and furthermore, that it is a disease by no means rare, and *can only be diagnosed from the state of the urine.*

3. *Urinary Sediments.*—The next subject that presents itself for notice under this head, relates to that group of diseases known as urinary sediments, sand, gravel, and calculi. These terms, however, having reference to the degree of accretion of these deposits, and not to any chemical or pathological distinction, has more of surgical than medical value, and will, therefore, not be applied in this paper.

As there are but few and trifling discrepancies of opinion, regarding the nature and origin of these deposits, and none with respect to their importance as signs of morbid action, I will briefly enumerate the most import-

ant and interesting of them, with a few remarks, touching their general history and pathology.

The sediments are various, and possess very different chemical constitutions, as they are derived from different principles, and different functional lesions in the economy. Some of them are merely the natural constituents of the healthy urine in excess, as urea,* uric acid, uric oxide, the urate of ammonia, and the earthy phosphates; whilst others are foreign to the healthy urine, as oxalate of lime, cystic oxide, and silicic acid, &c.

A. *Urea, uric acid,* and the *urates,* are, no doubt, derived from the proteine constituents of the blood; yet authors are not agreed as to their respective elemental origin, nor to the exact rationale of these formations.—Prout is of the opinion that urea is derived from the metamorphosis of gelatinous, and uric acid from that of the albuminous tissues, and Dr. Golding Bird (On Urinary Deposits) favors this view—at least, that they are derived from different tissues. Liebig, (Animal Chemistry,) on the other hand, supposes that uric acid is the immediate product of the metamorphic action, and that urea is a secondary product arising from the action of oxygen and water on the uric acid.† But these slight hypothetical differences, in no way impair the truth of the general statement, that they are derived from the effete and superfluous nitrogenous principles, and when found in positive excess in the urine, point to a source of disturbance of the functions of assimilation. that is all-important to diagnosis, and rational treatment.

B. *The Phosphatic Deposits,* are supposed, likewise, to

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* *Urea* never occurs in sufficient quantity to form a deposit, yet from its relation to uric acid, and its salts, it is most convenient to consider it in this connection.

† Thus:—1 atom uric acid plus 4 atoms water plus 6 atoms oxygen are equal to 2 atoms urea plus 6 carb. acid.

be derived from the two sources of food and tissue. Much of the food of man has already formed within it some of the phosphatic salts, and the proteine elements of the tissues contain a given amount of phosphorus, which is readily converted into phosphoric acid by the action of oxygen; and the brain and nervous tissue, containing a larger amount of that substance than the other tissues, would, by hypothesis, yield a large share of the excess found in urine abounding in the phosphates; and observation fully sustains the hypothesis; for excessive mental and bodily exercise most invariably produce an excess of the phosphatic salts, and particularly the triple phosphates.

It is proper, also, to state that these salts are very often associated with serious organic lesions, and particularly of the spinal column; and the mucous membrane of the bladder when inflamed or highly irritated seems to have the power of secreting the phosphate of lime.

C. *Oxalate of Lime.* This deposit, as the result of a morbid state of the organism, was but little understood and appreciated before the researches of Dr. Golding Bird were published in the Medical Gazette, in 1842, and since, in his valuable monograph on urinary deposits.—Indeed, as an element of morbid urine, it was regarded as very rare; but that author has found it to be more constant than the earthy phosphates. Dr. Prout refers the constitutional cause of oxalic acid to a morbid action of the saccharine assimilating functions, and that it is closely related to diabetes melitus. Dr. Bird, however, has never found sugar in oxalic acid urine, nor oxalic acid in diabetic urine; nor has he found the general constitution of the two kinds of urine to agree. He therefore denies the saccharine and amylaceous origin of this acid. But from the constant association of oxalic acid with an excess of urea, and often with uric acid, as well as from the easy convertibility, by hypothesis, of urea and water—

minus one atom of oxygen—into oxalic acid and ammonia, Bird supposes that the acid in question is derived from the urea of the blood, and is associated with the uric acid diathesis.* He admits the correctness of Prout, in placing the primary cause in the digestive and assimilative functions; but refers the morbid derangement particularly to the functions of the stomach, duodenum, and liver.

D. *Cystine, or Cystic Oxide.* Since the discovery of this principle in a calculus, by Wollaston, a number of chemists have detected it in the urine, associated with calculi; but Dr. Robert Willis, I believe, was the first to detect it in the urine unconnected with stone. It is generally found in suspension in the urine, giving it a turbid appearance; but a portion, according to Bird, exists in a state of solution, as acetic acid always precipitates a small quantity.

Prout refers the pathology of this sediment to a morbid albuminous assimilation, and from the fatty matter often voided with the urine, as well as "the waxy character of the countenance," suggests the co-existence of *greasy liver.*

Bird coincides with Prout in referring the derivation of this substance to albumen. He thinks, from the chemical constitution of cystine, there can be no difficulty in explaining its presence in the urine, "by supposing that it is formed by those elements of our tissues which would normally have been converted into urea and uric acid, in consequence of the presence of an excess of sulphur, connected essentially with a scrofulous diathesis."

E. *Silicic Acid.* Berzelius and Simon being the only

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* Liebig has also noticed the connection between the presence of the oxalates and urates in the urine, but he suggests that the oxalic acid is derived, along with the urea, from the oxidation of *uric acid.* —*Animal Chemistry.*

two chemists that I know of, who have detected silicic acid in healthy urine, and the latter only a *trace*, in the urine of a man, though *healthy*, "whose digestion and nutrition were not very good," I have thought proper to mention this as one of the ingredients foreign to healthy urine. As a deposit, but few credible examples are upon record. Upon the continent of Europe, this substance has been found, mixed with the earthy salts, in some three or four calculi.* In England, Drs. Yelloly and Venables† have each detected silica in notable quantities, and so blended with oxalate of lime as to satisfy the most sceptical against the idea of imposition. The proportion, however, of this substance, seems to have been hardly sufficient to justify the name of *siliceous gravel*. Dr. G. O. Rees is of the opinion that silica may be found in small quantities in most calculi, if it be made the special object of search. But be this as it may, it has been found in such small quantities and so seldom, that little or no pathological interest is attached to it, and is only noticed here, to render more complete the enumeration of urinary sediments.

4. *Morbus Brightii.* Of the organic diseases under this division, the first, in point of importance and interest, is Bright's disease of the kidney, sometimes known as granular degeneration of the kidney. This disease was discovered and made known by Dr. Richard Bright, of England, some twenty years ago, and the accuracy of his researches, and the originality of his discovery, have been fully confirmed by subsequent investigations.

No writer, of the present day, denies the existence of such a disease—often co-existing with albuminuria, and dropsy; most constantly fatal in its termination, and of

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* By Vauquelin, Fourcroy, and Wurzer.

† See Braithwait's Retrospect, parts xiii. and xiv.

no unfrequent occurrence. But the point, it seems, that has been most difficult to decide in its history, is the nature of the relation of the organic affection to the albuminous state of the urine; and this is the point which most directly interests us in establishing the value of the urine as the medium of its diagnosis.

Having already shown that albuminous urine does not necessarily imply the presence of Bright's disease, it only remains to be inquired whether Bright's disease is always associated with albuminous urine; and as authors are pretty generally agreed upon the affirmative of this question, I will only notice those facts and opinions, at present* known to me, that may seem to militate against this doctrine.

Simon, who always found albuminous urine in this disease, gives Prof. Graves, of Dublin, the credit of denying its constant presence; but when an examination is made of the recorded postmortem of this case, with "Bright's kidneys" secreting "perfectly healthy urine," it will be found that Dr. Graves's denial amounts to nothing. The appearance of the kidneys is thus described: "This man's kidneys were found somewhat enlarged, and at first I thought they were otherwise natural, but a further examination and maceration convinced us that the corticle substance was paler than usual. Increase of size, paleness, and, *perhaps*, a very slight softness of the cortical part, constituted the whole change; there was no appearance of granulations either on the surface, or in the substance of the kidneys."* Besides, this man had had chronic dropsy, with highly albuminous urine, but as the dropsy disappeared, the urine gradually became healthy, and remained so a fortnight, when he took erysipelas

* See Lecture 2nd, of Dr. Graves, at Meath Hospital, session 1837—8, and published in Lond. Med. Gaz., October, 1838.

of the face (the urine again becoming albuminous) and died. Now this case, it seems to me, is not difficult of explanation. It appears he labored under dropsy with albuminuria, which is of frequent occurrence; the return of albuminuria on the acute attack, may be referred to engorgement of the kidney. The postmortem really disclosed nothing but hypertrophy. The *very slight softening*, from Dr. G.'s own showing, was very questionable, and the history of the case would well account for the paleness of the kidney, on the ground of general *anemia*. And, furthermore—and what seems a little inconsistent—in a subsequent part of this lecture, Dr. Graves is willing to admit, that *a well characterized* case of Bright's kidney, existing without albuminous urine, *has never been observed*. Dr. Christison, who has paid much attention to this malady, says that albumen is always present in the acute stage, but sometimes absent in the chronic form; and there are other evidences of its occasional absence in the more advanced stages.

Admitting this to be true, and the practical diagnostic value of the urine will be but little impaired, since that stage in which it disappears can scarcely be remedied by treatment.

Dr. Watson (Lectures on Practice of Med.) declares that albumen is not always present in Bright's disease—but he only alludes to its occasionally vanishing a few hours, after a hot air bath, active purging, &c.; which amounts to no denial of its *constant general presence*. Indeed I want no better advocate for the diagnostic value of the urine, in this disease, than Watson, who says:—"Now it is worth your while to remark, with respect to this category of symptoms that (the state of the urine excepted) they have no special prima facie reference to renal disease, they are all common enough in other complaints.

"In truth, they are mere secondary consequences of

Bright's disease; and in so far as they are symptoms of it, they are indirect symptoms. Before Dr. Bright, no one perceived in such symptoms any indication of disease of the kidney. The primary and fundamental organic malady reveals itself by no direct symptoms except those which are furnished by the urine.

5. *Inflammation of the Urinary Passages.* Inflammation of the mucous membrane of the urinary passages, may be suspected from certain painful symptoms in the direction of those organs, febrile action, &c.; but it cannot be positively diagnosed (except of the urethra) without the information furnished by the urine. The presence of mucus and epithelium scales is almost pathnomonic of this affection. In the chronic form, phosphate of lime usually co-exists; and pus, both in the chronic and acute stage may be present. Dr. Venables* "once saw an instance in which, during the acute stage of inflammation, enormous quantities of pus were secreted and thrown off by the mucous coat of the bladder, similar to what takes place in acute bronchitis." You have now presented to your view, some of the more important of a large class of diseases, that are of very frequent occurrence in this and every other country—none of which can be discovered and identified without the information furnished by the physico-chemical constitution of the urine. And I now proceed to notice, hastily,

II. *Those diseases that may be diagnosed, but not so clearly, without the aid of the urine.* In truth, the condition of the urine may throw some light upon the diagnosis of nearly every disease that may afflict the human body; but it will fall within the object of this paper to notice only such as have a more immediate and constant patho-

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* Lectures on Calculus and Urinary Disorders—Lond. Med. Gaz. for August, 1839.

logical relation with that fluid, and even these are too numerous to admit of more than a general and hasty consideration, in a paper aiming more to call attention to facts, than to elucidate their nature.

1. *Disorders of the Brain and Nervous System;* as coma, convulsions, hysteria, nervous exhaustion, &c.

Notwithstanding these diseases, as already stated, may be diagnosed without reference to the urine; yet, that secretion, it is allowed by every one, throws much light on their peculiar nature, and at times, may become absolutely essential to a correct diagnosis.

Coma, and certain forms of *convulsion*, at times, owe their origin to a deficient excretion of urea, and, consequently, its accumulation in the blood; whilst at other times, they proceed from very different causes, as narcotic poisons, indigestible substances in the stomach and bowels, intestinal worms, cerebral congestion, hysteria, &c.; and hence it cannot but be obvious that the renal secretion is no unimportant agent in determining the nature of such cases.

Hysteria is another diseases that is pretty generally associated with a characteristic state of the urine. It is usually abundant and of low specific gravity. That hysteria, may, under most circumstances, be diagnosed very readily, will not be denied, yet it sometimes so assimilates other diseases, as epilepsy, tetanus, &c., that a satisfactory diagnosis is quite difficult.

Nervous Exhaustion, or that disordered state of the nervous system usually denominated *nervousness*—where great mental exercise or anxiety has caused considerable waste of the nervous tissue,—the kidneys, as in hysteria, often secrete a quantity of pale limpid urine; but differs from hysterical urine in containing usually an excess of the ammoniaco-magnesian phosphates.

2. *Chronic Organic Diseases*, as of the heart, liver, spleen, &c., are well known to produce certain changes

in the secretion of the kidneys—such, however, as will not be contended, are peculiar to these diseases—yet when accompanied by other symptoms, go very far in elucidating their nature. Thus, in auriculo-ventricular contraction of the heart, and in certain lesions of the liver and spleen, as cirrosus, and induration of the spleen, the urine is secreted in small quantities, of high specific gravity, abounding in sediments, and deeply colored by the presence of purpurine.

Hypertrophy of the heart, too, is often associated with an albuminous urine.

3. *Chronic Functional Diseases*, as dyspepsia, or indigestion, &c.

The terms dyspepsia and indigestion are exceedingly latitudinous, and indefinite in their meaning. They embrace a large number of disorders, having no common resemblance, except defective or vitiated nutrition. The primary and most important seat of the disorder may be found in every series of the assimilating functions, from the digestive actions in the stomach to the destructive processes in the peripheral vascular system; and in each series it may have several independent sources. According to Prout, and I believe his classifications in the general are adopted by the profession, indigestion may be referred to a pathological state of the functions of aqueous, saccharine, albuminous, and oleaginous assimilations —and these pathological departures may be found in different stages of these processes of assimilation. And hence the importance of a more specific diagnosis, than that which merely arrives at the indefinite notion of *indigestion*, or *dyspepsia*. I have already shown the *general* relations of the assimilating functions to the renal secretion, and also that in certain *special* derangements of these functions, certain more or less constant alterations may be found in the urine, as excess of urea, uric acid and urates, the presence of oxalic acid, cystine, sugar, &c. Then, when dyspeptic symptoms make their ap-

pearance, it is clear that the urine alone can furnish that clue to the precise nature of the complaint, that is requisite to a rational and safe treatment.

4. *Acute Inflammatory Diseases.* The last group of diseases, that will be noticed, are some of the acute inflammatory diseases, as gout, rheumatism, acute dropsy, nephritis, &c. It is well known that each of the diseases here mentioned, is sometimes liable to be confounded with others, and it is equally well known that each is usually associated with a certain morbid alteration of the urine. Thus, gout and rheumatism were attended with a high colored urine—often abundant, and loaded with sediments of uric acid and the urates of ammonia and soda; acute dropsy, with urine of sparse secretion, albuminous, and high specific gravity. The urine in nephritis may be variable, according as the investing capsule, cortical, and tubular portion, or the pelvis of the kidney may be the seat of inflammatory action. In these affections, it may vary but little from a healthy state, as in *peri-nephritis*—albuminous, as in *inflammation of the cortical and tubular portion*—or contain mucus and pus, as in *pyelitis.*

I will now conclude by briefly mentioning the late supposed discovery of a specific constitution of the urine in *Pregnancy*, which, though not a disease in itself, may often be confounded with diseases; and, besides, the diagnosis of pregnancy is sometimes of great value and interest in a medico-legal point of view. The principle that has been supposed to characterize the urine in gestation has received, from its discoverer, [Nanche] the name of *kystein*, or *kiestein.* Many experiments have been made to ascertain the truth and value of this discovery, and although kiestein has not been found invariably in pregnancy—and it is even rendered probable that it may occur under other circumstances, as in lactation (Kane)—yet they nearly all concur in proving its presence in the urine, as a general thing, sometime in the course of gestation.

This state of the urine, however, is not, at present, regarded as depending upon the presence of any *new simple substance;* but to owe its peculiarity to the admixture of a *proteine substance* resembling caseine, a *butyraceous fat*, and the *ammoniaco-magnesian* phosphates. But this, even of a *proximate elementary character* does not render it the less valuable as an agent in diagnosis, if it be found to exist *only under certain conditions.* Without detaining you with the details of experiments—regarding the diagnostic value of kiestein, Simon (Chemistry of Man) remarks: "From the observations of Kane and myself, it seems to follow, that pregnancy may exist without the occurrence of kystein in the urine; if, however, there is a probability or possibility of pregnancy, and kystein is found in the urine, then the probability is reduced almost to a certainty." Upon the same subject, Dr. Bird (Urinary Deposits) concludes, from his observations: "As a test for the existence of pregnancy, the formation of the caseous pellicle, especially if accompanied by a cheese-like odor, will be an extremely valuable *corroborative* indication: but it would be unsafe to found on it alone any positive opinion, because, as a sufficient number of observations have not yet been made on this subject, we have no right to assume, however probable it may be, that a caseous pellicle can appear *only* when pregnancy exists."

Since this paper has been ordered for publication—to give it as much *practical* value as possible—I have constructed the following table, to assist such as may wish to avail themselves of the helps furnished by morbid urine, in the difficult task of diagnosis; and who may not have the advantage of a competent chemical education. It will be observed that the instruments and reagents necessary for all the manipulations in the Table, are *few, simple, and easy of application.*

A TABLE TO ASSIST THE BEGINNER IN THE DIAGNOSTIC APPLICATION OF MORBID URINE.

SUBSTANCE.	PATHOLOGICAL RELATIONS.	CHARACTER OF URINE	CHARACTER OF DEPOSIT.	MANNER OF TESTING, &c.
UREA.	Found in excess sometimes in inflammatory affections, in a certain form of diuresis called by Willis, Azoturea, in oxalic acid, urine, &c. Deficient in diabetis insipidus, hysterical diuresis, &c.	Color and other sensible qualities variable; specific gravity, high; acid reaction.	Being soluble in an equal quantity of cold, and every proportion of warm water, there is no deposit.	Put a small portion of the suspected urine in a watch-glass, add an equal quantity of nitric acid, and if urea be in excess, crystals of nitrate of urea will immediately form. To determine whether the excess be absolute or relative, the amount of urine discharged in the twenty-four hours should be ascertained.
URIC ACID.	In excess, in inflammatory, and some febrile affections, gout and rheumatism, certain diseases of the lungs, liver, and heart, indigestion, &c	Color high; S. Gr. slightly increased; acid; often associated with the urates, and *purpurine*.	Chrystaline and red, from the coloring matter of the urine.	Insoluble in water, readily soluble in caustic potash, and precipitated from this menstruum by the addition of an acid; in a granular and colorless state, dissolved by nitric acid with effervescence, and by careful evaporation to dryness, yields a pink color, which becomes a fine violet by the action of ammonia.
URATE OF AMMONIA.	Pathological relations much the same as uric acid.—Urate of *soda* present in gout and rheumatism.	Color varies from pale to deep copper; S. Gr. variable; often low; acid; becomes turbid on cooling.	Varies from white to purple; pink or fawn color most common; amorphous.	Subject a small portion of the turbid urine in a test tube, to a gentle heat from the blaze of a spirit lamp, when the urates will dissolve, rendering the urine perfectly clear. It will be well to watch the process of clearing, as albumen, if present, will render the specimen again turbid, at a higher heat.

SUBSTANCE	PATHOLOGICAL RELATIONS.	CHARACTER OF URINE	CHARACTER OF DEPOSIT.	MANNER OF TESTING, &C.
PHOSPHATES.	Nervous exhaustion in excess; diseases and injuries of the spinal column; marasmus; abuse of the sexual organs; mercurial cachexia; certain periods of continued fever; inflammation and irritation of the bladder, &c.	Color variable, often pale; Sp. Gr. variable, mostly low; alkaline; triple phosphate often acid; opulescent.	White, except colored with blood; phosphate of lime amorphous; triple phosphate; chrystaline.	Soluble in dilute hydrochloride and nitric, and strong acetic acids; insoluble in ammonia and liq. potass; heat does not dissolve; mucus and pus often present; and sometimes blood; triple phosphate may often be detected on the surface of urine that has stood for a time, forming a thin irridescent pellicle, or sheet of minute crystals.
OXALATE OF LIME.	Associated with chronic and peristent derangement of the general health; dispepsia, mercurial and syphilitic cachexia; exhaustion from child bearing, and over lactation; venerial excesses, &c.—(Bird)	Pale citron yellow, or greenish hue; (Prout.) fine amber hue; often darker than natural; (Bird.) Sp. Gr. variable; acid.	A white, glistening powder diffused through the urine, but does not fall as a distinct deposit. (Bird.)	Insoluble in aqua potass, and acetic acid; soluble in nitric acid, and convertible by a red heat into carbonate of lime. The microscope reveals beautifully formed transparent octohedral crystrals, with sharply defined edges and angles, &c.—(Bird.)
CYSTIC OXIDE.	But little seems to be known; Prout suggests its connexion with malignant disease, and particularly with *fatty liver*. Bird is of opinion that it is associated with the scrofulous diathesis.	Greenish or honey yellow; sometimes oil on the top; odor of sweet-briar; Sp. Gr. generally low; neutral, or slightly acid.	White or fawn colored pulverulent deposit, much resembling the pale variety of urate of ammonia.—(Bird.)	Heat does not dissolve it as it does urate of ammonia; nor dilute hydrochloride, and strong acetic acids, as they do the earthy phosphates; readily soluble in liquor ammonia; microscope reveals crystals in the form of six sided laminæ.

SUBSTANCE.	PATHOLOGICAL RELATIONS.	CHARACTER OF URINE	CHARACTER OF DEPOSIT.	MANNER OF TESTING, &C.
SUGAR.	The presence of sugar in the urine is pathognomonic of diabetes mellitus, which has for its most usual associates, certain forms of indigestion; boils and carbuncles, &c.—In the latter stages, phthisis; jaundice; dropsy; apoplexy, &c.—(Prout.)	Pale straw color; clear; odor of hay; sweetish taste; Sp. Gr. high; acid reaction.		There are many tests for diabetic sugar, but the following, (Moore's test,) from its easy application, and, according to Bird, from its remarkable freedom from sources of fallacy, may suffice here. Boil for a minute or two in a test tube, two or three fluid drachms of the urine with half the quantity of liquor potassæ, and if sugar be present, the urine will become of an orange yellow, brown or claret color, by conversion of the sugar into melassic acid; the *yeast test*, and also Trommer's, might be used as confirmatory.
ALBUMEN.	Found in the urine, in Bright's disease of the kidney; albuminuria; certain forms of chronic and acute dropsy; and other chronic affections; the latter stages of acute exanthemata; gout; rheumatism, &c.	Sensible qualities, density &c.; variable; if albumen be abundant it has a sticky feeling.		Heat a portion of the urine, in a test tube, to the boiling point, and if it becomes turbid, the precipitate is either albumen, or earthy phosphates; if the latter, a drop or two of nitric acid will clear it again, and if the former, it continues turbid; if the urine be alkaline, add a few drops of nitric acid before heating; if in this case the patient has been using balsam or cubebs, an equal quantity of alcohol should be added to the turbid urine, which again clears, if the deposit be not albumen.

SUBSTANCE.	PATHOLOGICAL RELATIONS.	CHARACTER OF URINE.	CHARACTER OF DEPOSIT.	MANNER OF TESTING, &C.
MUCUS.	In excess, in inflammation and irritation of the genito-urinary passages; from various causes, as cold; mechanical irritation of calculi, &c.	Color, &c., variable; cloudy; sometimes gelatinous; Sp. Gr. variable; generally alkaline.	Stringy or ropy masses.	Add acetic acid, and if the deposit be mucus it "coagulates into a thin semi-opaque corrugated membrane, presenting an appearance so peculiar, that once seen it can never be mistaken." (Bird.)
PUS.	Presence in the urine indicates, suppuration of the kidneys, or mucous membrane of the genito-urinary passages, abcess in adjoining parts, &c.	Color, Sp. Gr., &c. variable; turbid; acid or neutral.	A dense homogeneous layer of a pale greenish cream color, uniformly diffusing on agitation.	Agitate a portion of the deposited pus with an equal quantity of liquor potassæ, and a dense translucent, gelatinous or mucous mass forms; by subjecting the supernatant urine to the test of heat and nitric acid, albumen may be detected; not coagulated by acetic acid as mucus, and undergoes putrefaction slowly.

ART. II.—*The History, Diagnosis, and Treatment of Edematous Laryngitis.* By ELISHA BARTLETT, M. D., Professor of the Theory and Practice of Medicine in the University of Louisville.

ARTICLE I.—INTRODUCTORY.

I have been induced to prepare this memoir, principally by the following considerations. The disease, of which it gives an account, runs its course with great rapidity, and is attended with extreme danger; terminating, nearly always, in death, unless arrested by timely and active interference. There is good ground for believing that this disease is of more frequent occurrence than has generally been supposed. There is no full and complete history of it, generally accessible to American physicians. There is no impropriety in saying that no one of the popular and standard works on practical medicine, either English or American, usually found in the hands of our medical men, and relied upon as guides and authorities, furnishes such knowledge of this disease as is essential to its successful treatment. This knowledge ought at all times to be ready for use and application. The necessity for this use and application, whenever it occurs, is immediate, urgent, and pressing; it admits of no delay; there is no time for deliberate inquiry and consultation. The physician, in many, perhaps in most cases, is obliged to act upon his own single responsibility; it is his duty to be fully prepared, in advance of the emergency, to act promptly and aright.

The sources from which the materials, made use of in the composition of this paper, have been derived, will be indicated in their appropriate places. I have nothing of my own to add to these materials, except the vivid and painful recollection of two fatal cases of the disease, occurring in private practice, both of which, with our pres-

ent means and knowledge, might probably have been saved.*

ARTICLE II.—Lesions.

Sec. 1. *Preliminary.*—The pathological anatomy of edematous laryngitis constitutes the necessary and indispensable foundation of everything like an adequate and complete knowledge of the disease. Its symptoms, its pathological relations, and its treatment, can be rendered intelligible only by a reference to its lesions. If there were still to be found, in the ranks of our profession, any individuals of that class who are disposed to depreciate the value and to underrate the importance of pathological anatomy, they could hardly be referred to any more striking or emphatic refutation of their prejudices than that which is furnished by this disease. All its phenomena, all its relations, and its entire treatment, are bound up in its appreciable and obvious anatomical lesions, and are directly dependant upon them.

Sec. 2. *Infiltration.*—Edematous laryngitis consists, in its essential anatomical element, in an infiltration and a consequent tumefaction of the lax submucous cellular tissue, upon the anterior surface of the epiglottis, and around the edges of the glottis. Bayle's original description of the diseased parts is in the following words: "In all cases, the edges of the glottis are swollen, thickened, white and trembling; they form a swelling more or less prominent, fully infiltrated with serum, which is pressed out from the cellular tissue with great difficulty, even after free incisions have been made in it. * * * The edges of the infiltrated and swollen glottis are dis-

* Different appellations have been applied to this disease. Bayle, its first historian, called it "*Edema of the Glottis,*" or "*Edematous Laryngeal Angina.* Curveilhier calls it "*Submucous Laryngitis.*" Valleix, Grisolle, and many others apply to it indifferently the terms: "*Edema of the Glottis,*" and "*Edematous Laryngitis.*"

posed in such a manner, that every impulsion which comes from the pharynx turns them down upon the opening of the glottis, which is thus more or less obstructed, —while an opposite impulsion, from the trachea, throws these moveable folds upwards and outwards, upon the sides of the opening of the glottis, rendering the orifice comparatively or entirely free. * * * * The epiglottis is rarely intact; it is often very much swollen upon its edges."*

I have thought it best to add to the foregoing, even at the cost of some repetition, Hasse's minute and excellent description of the lesions. "The inflammation," he says, "assails the mucous membrane above the glottis, and particularly those of its folds which unite the epiglottis on the one hand with the root of the tongue and the arches of the palate, on the other, with the larynx, especially laterally, in the direction of the arytenoid cartilages —these folds being, as is well known, very lax and moveable, and susceptible of great extension. * * * Inflammation of the epiglottis exhibits, after death, the whole of the mucous membrane between the root of the tongue and the glottis uniformly tumefied, so that the outlines of the epiglottis and arytenoid cartilages, together with the numerous folds and recesses in the vicinity of those parts have became effaced. This is the result of inflammatory effusion into the interspaces of the loose cellular texture, subjacent to the mucous membrane. In proportion to the intensity and duration of the inflammatory process, this exudation is sometimes of a purely serous and liquid nature, so as to flow away upon incision; sometimes blended with coagulable materials, and jelly-like; sometimes, again, mingled in various proportions with pus; sometimes wholly purulent. Hence the tumor, which is always soft, lax and tremulous, like jelly, varies

*Dic. des Sci. Med., vol. xviii. p. 510.

greatly in color, being of a pale, or of a reddish yellow, sometimes of a dingy yellow or grayish white, and more or less opaque,—but, for the most part, superficially dotted with red. The swelling being dependant upon infiltration of the submucous cellular texture, cannot extend to the inferior surface of the epiglottis, because, there, no layer of cellular tissue exists; hence, the epiglottis has the aspect of having both its lateral edges bent over towards its nether surface, so as to form a narrow perpendicular groove, which is sometimes almost covered by the overhanging tumor. Neither does the swelling extend to the vocal ligaments—so that the term "*edema glottidis*," is not strictly correct—but the tumor hanging down on each side, and in size often exceeding a pigeon's egg, overlays the glottis in such wise as to leave but a narrow opening towards the posterior part which allows the column of air to pass out during expiration, but is closed up by any attempt at inspiration. In no example recorded, did the edematous infiltration beneath the mucous membrane show itself in any marked degree beyond the glottis."*

It will have been noticed in the foregoing descriptions, that while Bayle speaks only of a purely serous infiltration, Hasse states the infiltration to be sometimes serous, sometimes sero-purulent, and sometimes wholly purulent. There can be no doubt that the latter statement is the true one. Valleix says that, in more than three quarters of the cases, collected by himself, the infiltration was more or less mingled with pus. According to Valleix, in a few cases, the infiltration extends to the vocal cords.†

Sec. 3. *State of the Mucous Membrane.*—In a small number of cases, the infiltration above described constitutes the only alteration. The mucous membrane, and

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* Hasse's Path. Anat., pp. 258—260.

† Mem. de l'Acad. Roy. de Med., vol. xi., p. 107.

the parts in the neighborhood of the glottis are quite free from any obvious disease. This, however, is not generally the case. In most instances, there are traces of inflammation in the mucous membrane, or some other lesion in or about the glottis. Valleix found the mucous membrane red in one-third of his cases, ulcerated in about one-sixth, in others detached from the subjacent tissues, and so on.

Hasse says: "The mucous membrane of the affected parts is always variously changed. Its surface is rough; its epithelium partly thrown off in single scales and tufts, or raised by serous fluid; it exhibits, here and there, blood specks, or scattered bright red vascular streaks; it is, moreover, easily separable, and, when separated, friable. The neighboring muscles, especially the arytenoid, are sometimes unaltered, at other times saturated in like manner with the effused fluid, in which case they have become blanched, or undergone yellowish or grayish softening.*

Another common lesion consists of ossification, caries, or necrosis, of the laryngeal cartilages, especially the cricoid. Valleix found some lesion of the cartilages in more than half his cases. In a few instances, ulceration or abscesses have been found in the pharynx. The foregoing alterations are frequently found, more or less of them, together.

ARTICLE III.—Symptoms.

Sec. 1. *Mode of Access.*—Edema of the glottis sometimes commences suddenly, with a formal and violent paroxysm of suffocative dyspnea. This, however, is a rare occurrence. Valleix says that of forty cases, the histories of which he had examined, two only commenced in this manner.† The access is generally somewhat

* Hasse's Path. Anat., p. 260.

† Mem. de l'Acad. Roy. de Med., vol. xi., p. 136.

gradual, although more or less rapid,—the disease usually reaching its stage of full development, in from a few hours to two or three days. The principal phenomena of this period are, a feeling of uneasiness in the larynx; an irresistible inclination to swallow, occasioned by the sensation of a foreign body in the pharynx, or upper part of the esophagus; efforts, by hawking, to clear the larynx and fauces; some difficulty of respiration; and slight hoarseness. The hand of the patient may be frequently carried to the seat of uneasiness in the larynx.*

Sec. 2. *Pain in the Larynx.*—This pain, either spontaneous, or excited by pressure, is one of the earliest and also one of the most constant symptoms of the disease. It is mentioned as present, in some form or degree, in 32 of 40 cases, by Valleix; and in only one of the remaining eight is its absence formally stated. The pain is not often at all urgent, and in most cases does not attract the notice of the patient until his attention is called to it. In many instances, instead of positive pain, there is a pricking sensation in the larynx, some uneasiness on pressure, the feeling of a foreign body in the throat, or a sense of strangulation.†

Sec. 3. *Pain in the Pharynx.—Difficulty of Deglutition.*—In a certain proportion of cases there is pain in the pharynx, independent of the act of swallowing. Pain and difficulty of swallowing are present in a large majority of cases; in many instances they are extreme, and sometimes the act of swallowing becomes impossible. In three of Valleix's cases, drinks were returned by the nose.‡

It results, then, from the foregoing statements that pain about the throat, in the larynx or pharynx, or both, varying in kind and degree, spontaneous, or excited by pressure or motion, is an almost invariable accompaniment of

* Dic. des Sci. Med., vol. xviii., p. 508.
†Mem. de l'Acad. Roy. de Med., vol. xi., p. 136.
‡Mem. de l'Acad. Roy. de Med., vol. xi., p. 138.

the disease. It was noticed in 38 of Valleix's 40 cases.*

Sec. 4. *Cough and Expectoration.*—Cough is neither an urgent nor a constant sympton. Bayle merely says that, in the progress of the disease there supervenes in some cases a slight and occasional cough.† It is mentioned in only 14 of Valleix's 40 cases, and in the most of these it was slight. In some cases the cough is dry; in others there is more or less expectoration, varying in character in different patients, and in no way distinctive of the disease. Both the foregoing symptoms are of secondary importance.

Sec. 5. *Voice.*—One of the most constant symptoms of the disease consists in an alteration of the voice. This becomes rough and hoarse, then more and more muffled, and finally either nearly or altogether extinct. In only one of Valleix's cases had it the croupal character.‡

Sec. 6. *Respiration.*—The capital and most characteristic symptom of edema of the glottis is the difficulty and embarrassment of the respiration. It is an invariable attendant upon the disease, and by the extreme and intolerable distress which it occasions, it concentrates and absorbs almost the whole attention both of the physician and the patient. It is necessary to describe this symptom in detail.

It has already been stated that, in a few cases, edema of the glottis may commence with sudden and extreme dyspnea. Generally, however, the difficulty of respiration, showing itself at a pretty early period of the disease, is at first only slight or moderate in degree; it subsequently goes on, more or less steadily and regularly, increasing in severity until it reaches its highest point of intensity.

There is a very striking peculiarity of the dyspnea, first noticed by Bayle, and since by many observers. This

*Mem. de l'Acad. Roy. de Med., vol. xi., p. 141.
†Dic. des Sci. Med., vol. xviii., p. 508.
‡Mem. de l'Acad. Roy. de Med., vol. xi., p. 146.

peculiarity consists in the great difference in the difficulty of *expiration* and of *inspiration*. The latter is very much more difficult and laborious than the former. Bayle states, without any qualification, that while inspiration is very difficult, noisy, and hissing, expiration is always performed freely and easily. This statement requires some qualification. It is generally but not absolutely correct. In a large proportion of cases, the expiration does remain quite free and unembarrassed; but not in all. Valleix says that in five of eighteen cases the expiration was more or less difficult; but that in these cases the expiration was less difficult than the inspiration.

The difficult respiration is persistent and continued, but in most cases it is marked at intervals by paroxysms of extreme suffocative dyspnea. The following is Bayle's vivid and truthful description of these frightful attacks: "When the paroxysm is violent," he says, "the patient, upright upon his seat, experiences an extreme difficulty in breathing; his shoulders are forcibly elevated, all his chest is in motion, inspiration is very laborious and noisy, while expiration remains free and facile; he is threatened with imminent suffocation; the face is pale and pinched, or flushed and swollen, with a fearful or wandering expression; some patients demand earnestly and imploringly that the larynx should be opened; others seek a cutting instrument with which to rid themselves of the substance that suffocates them; in many cases there are moments of fury during which patients are tempted to put a violent end at once to their agony and life; they beat the bed with their hands, are in constant and violent agitation, and give utterance to cries of terror and despair. In these extreme paroxysms, and even in those that are much less violent, the pulse becomes unequal, irregular, and sometimes intermittent. When the fit has subsided, the breathing may become comparatively easy, but the pulse continues feeble and irregular. Not unfre-

quently, after a very short respite, another paroxysm or a series of paroxysms, carries off the patient; but more commonly death takes place during the comparative calm that follows the fit."*

Sec. 7. *State of Pharynx.*—In most of the cases that have been reported no mention is made of the appearance of the pharynx, and its examination seems to have been generally neglected. Valleix says, however, that of thirteen cases, in which the fauces were examined, there was only one which did not exhibit some appreciable lesion. In all the others there was manifest redness, more or less extensive, of the mucous membrane, with or without tumefaction; in two instances the semi-transparence of the swollen tissue showed that the tumefaction was owing to serous infiltration.† In four of the five cases reported by Dr. Buck, there was inflammation, more or less extensive, in and about the fauces.‡

Sec. 8. *Signs derived from Touch.*—The edematous swelling of the lax sub-mucous cellular tissue, upon the upper side of the epiglottis, and along the edges of the glottis, constituting anatomically the disease under consideration, may be felt and recognized by the touch. This very important and positive means of diagnosis was first discovered by Tuilier; it was announced in a thesis presented to the Faculty of Medicine of Paris in 1815. Valleix and Dr. Buck, and there can be no higher authorities, add the testimony of their own repeated experience to the original statement of Tuilier. In Dr. Buck's five cases, before scarification was resorted to, the existence of the edema of the epiglottis was positively ascertained by the touch. Dr. Buck speaks particularly of the swelling of the *epiglottis* only, but in the third case, he says,

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*Dic. des Sci. Med., vol. xviii, p. 509.
†Mem. de l'Acad. Roy. de Med., vol. xi., p. 149.
‡Trans. Amer. Med. Asso., vol. i., pp. 137, 144.

"while the end of the finger was pressing the epiglottis against the base of the tongue, the soft pulpy swollen edges of the glottis were felt rising up against it."* Valleix says, that of twelve cases, in which the exploration by touch was methodically made, the edematous swelling of the edges of the glottis was felt in eight. The swollen epiglottis, says Dr. Buck, conveys to the touch the sensation of a soft pulpy body, easily recognized and distinguished from the stiff rigid swelling of these parts in membranous laryngitis.

SEC. 9. *Physiognomy.*—The state of the face and its expression are such as might be looked for in a disease consisting essentially in a slow strangulation. The face is sometimes flushed, congested, and swollen; sometimes pale and sunken; the lips are livid, the eyes wild and staring; and the varying and commingled phases and degrees of bodily and mental agony, the dreadful sense of suffocation, the intense longing for fresh air, the consciousness of near and imminent danger, are vividly impressed upon the physiognomy.

SEC. 10. *General Symptoms.*—These are neither constant nor important. In some cases there is more or less febrile excitement; in others it is altogether wanting. The pulse is generally accelerated, becoming very rapid, feeble, and fluttering with the progress of the disease. The restlessness and agitation of the patient, at least before the gradual asphyxia is much advanced, are in proportion to the degree of dyspnea. There is sometimes thirst; the appetite may be diminished or lost. If there is any disturbance of the stomach or bowels it is quite accidental.

ARTICLE IV.—CAUSES.

SEC. 1. *Preliminary.*—Edematous laryngitis does sometimes occur spontaneously in persons at the time in good

*Trans. Amer. Med. Asso., vol. i., p. 139.

health, not suffering at the time with any general or local disease, and without any appreciable determining cause. This, however, is not common. It happened only three or four times in Valleix's 40 cases. In most instances the disease is connected with some general morbid condition or with some local affection.

Sec. 2. *Local Disease in and about the Glottis.*—The frequency of this complication has already been stated in describing the anatomical lesions of the disease. These primary affections, acting as determining causes of the edematous laryngitis are thus enumerated by Valleix: 1. Simple inflammation of the laryngo-pharyngean mucous membrane. 2. Ulceration, acute or chronic, of the larynx, and sometimes of the pharynx. 3. Simple abscess of the pharynx, and sometimes of the larynx. 4. Alterations, more or less profound, of the laryngeal cartilages, with submucous abscesses, or disease of the mucous membrane. 5. In rare instances, inflammation of an organ more remote, such as the tongue.*

Sec. 3. *Convalescence from Fevers.*—The frequent occurrence of edematous laryngitis during convalescence from low fevers was noticed by Bayle, the first historian of the disease. As to the primitive form of this angina, he very truly says, it comes on most frequently during convalesence from febrile diseases of a grave character, such as adynamic or ataxic fevers.† There was an extraordinary frequency of the disease in the New York Hospital, between the months of December, 1847, and February, 1848. During this period, says Dr. Buck, the season was remarkably rainy and wet, accompanied with very little snow, and characterized by the prevalence of erysipelas and typhus fever, as well as an asthenic type in other diseases, both in and out of the hospital.‡

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* Mem. de l'Acad. Roy. de Med., vol. xi., p. 120.
† Dic. des Sci. Med., vol. xviii., p. 508.
‡ Trans. Amer. Med. Asso., vol. i., p. 135.

The following is a tabular view of the circumstances under which the forty cases, analyzed by Valleix, occurred:

During convalescence from grave fevers,	10
During convalescence from pneumonia,	4
In the course of erysipelas,	1
After scarlet fever,	1
After lithotomy,	1
During treatment of fracture, with fever,	1
During convalescence from cerebral congestion,	1
In the course of bronchitis,	1
In the course of hypertrophy of the heart,	1
In the course of elephantiasis,	1
In the course of laryngeal phthisis,	9
In the course of cancer of the larynx,	1
With syphilis,	2
During good health,	4
State of health not mentioned,	2

Sec. 4. *Age; Sex; Season.*—The following table shows the ages in 36 cases cited by Valleix:

Under 10 years,	2
From 10 to 20 years,	5
From 20 to 30 "	8
From 30 to 40 "	4
From 40 to 50 "	8
From 50 to 60 "	5
From 60 to 70 "	3
At 71,	1*

The disease is much more common in the male than in the female sex. Of Valleix's 40 cases, 29 occurred amongst males, and 11 amongst females.

It does not appear that season or weather has any very marked influence in the production of the disease. Of 39 cases, mentioned by Valleix, 21 occurred between Oc-

* Mem. de l'Acad. Roy. de Med., vol. xi., p. 121.

tober and March, and 18 between April and September.*

ARTICLE V.—Varieties and Forms.

Edematous laryngitis, as it has been described in the foregoing pages, has been divided, especially by Cruveilhier, into *primitive*, and *secondary*, and also into *acute* and *chronic*. The grounds of this division are obvious enough and it is only necessary to remark here that the strictly chronic form of the disease must be of extremely rare occurrence, if, indeed, it is ever met with.

But, further than this, Cruveilhier divides edematous laryngitis, or, as he calls it, *submucous* laryngitis, into two varieties;—first, the *supra-glottic*, the ordinary form already described; and second, the *infra-glottic*, in which the inflammation is seated below the glottis. M. Cruveilhier reports five cases of this form of disease. They were accompanied by necrosis of the cricoid cartilage, and by one or more abscesses, in immediate contact with it. In two instances, the abscesses opened into the esophagus. M. Cruveilhier regards the necrosis of the cartilage as the result of the inflammation in its immediate neighborhood.† It seems to me hardly proper to call this inflammation of the cellular tissue of the larynx, about the cricoid cartilage, followed by abscesses, and not accompanied by any infiltration of the submucous cellular tissue of the glottis, a form or variety of the disease under consideration.

Cases occurring in connexion with erysipelas have been elevated by some writers into a distinct form of the disease.

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* Mem. de l'Acad. Roy. de Med., vol. xi., p. 123.
† Dic. de Med. et de Chir. Prat., vol xi., pp. 41—45.

ARTICLE VI.—March; Duration; Termination.

The usual progress of the disease is contained in the history of the symptoms, already given. This progress, or march, may, however, vary considerably in different cases. It would seem that in cases depending upon simple inflammation, the march of the disease is usually regular and gradual; while in those which supervene upon some chronic lesion, the access is not unfrequently announced by a sudden paroxysm of suffocative dyspnea. According to Valleix, the disease, when fully established, marches with a rapidity in proportion to the intensity of the inflammation.

The most striking feature in the march of the disease, consists in the violent suffocative paroxyms already described. These are present in a large proportion of cases. Bayle says they usually make their attack during sleep. They generally increase in frequency and violence with the progress of the disease. They occur more frequently during the night than during the day. The degree of relief in the intervals of comparative calm between the paroxysms, differs very much in different cases. Sometimes, mostly in the early period of the disease, it is very considerable; in other cases, and usually late in the disease, it is very slight.

The duration of the disease varies from only a few hours to two or three weeks. In a large majority of cases, however, unless the patients are relieved by a surgical operation, the disease is not prolonged beyond four or five days. This duration, according to Valleix, is generally longer in cases supervening upon chronic disease of the larynx, than in those that are primitive, or simply inflammatory.*

Death may take place during one of the suffocative

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* Mem. de l'Acad. Roy. de Med., vol. xi., p. 162.

paroxysms, or in the period of comparative calm that follows. The latter is more frequent than the former—a fact that was noticed by Bayle. Of the cases, constituting the basis of Valleix's memoir, three only terminated in the midst of a violent paroxysm; in seven, death took place during a period of comparative calm; but in all the others, constituting a considerable majority of the cases, the fatal termination took place, neither in the midst of a distinct paroxysm, nor during a period of well marked repose, but in a state of steadily progressive asphyxia, depending upon the persistent and gradually augmenting difficulty of respiration. In only one instance was death quite sudden.*

ARTICLE VII.—Mortality and Prognosis.

Edematous laryngitis, unless relieved by a surgical operation, generally terminates in death. Bayle, when his first memoir upon the disease was written, in 1808, had seen seventeen cases—all of which were fatal. His subsequent experience did not induce him essentially to change his prognosis. Of the forty cases, collected by Valleix, nine terminated in recovery. This, it seems to me, is an unusually large proportion. It appears probable that the primitive form of the disease, occurring in persons otherwise in good health, is somewhat more susceptible of cure, than that which is connected with other lesions of the larynx, or supervenes in the course of some other disease.†

ARTICLE VIII.—Diagnosis.

A well marked case of edematous laryngiti , attended by its ordinary phenomena, is not very likely to be confounded with any other disease. Pain or uneasiness

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*Mem. de l'Acad. Roy. de Med., vol. xi., p. 158.
†Mem. de l'Acad. Roy. de Med., vol. xi, p. 173.

about the larynx; the sensation of a foreign body in the throat; accompanied or followed by more or less difficulty of swallowing; laborious, difficult, and noisy inspiration, the expiration often remaining entirely or comparatively free; agitation; occasional paroxysms of suffocative dyspnea of extreme violence; and sooner or later signs of gradually increasing asphyxia,—constitute a combination of phenomena, very characteristic of this disease, and certainly not often found in any other. For an absolutely positive diagnosis, we must rely upon the distinctive physical sign dependent on the touch. Grisolle doubts the value of this last means of diagnosis; he says that in two or three instances, he attempted, but unsuccessfully, to reach with his finger the seat of disease; that the spasmodic contractions of the upper orifice of the larynx, and the efforts at vomiting obliged him to desist, and that the same thing had happened to Chomel, Blache, and others.* The testimony of Valleix and Dr. Buck, as well as of many others, leaves no doubt, however, of the practicability of this exploration.

Edematous laryngitis may sometimes be confounded with exudative inflammation, or true croup. In the latter, however, a careful examination of the fauces will generally exhibit patches of the effused fibrin; and any uncertainty that might still exist would be removed by the touch. Beside certain differences in the voice, cough, and breathing, which are, not always, but commonly, present—it will be remembered also that edematous laryngitis is a disease of adult life, while true croup almost always occurs in childhood. I do not know how frequent simple exudative laryngitis, or true croup, may be in the adult; but I suppose many of the cases which have been regarded and reputed as such, have been cases of edematous laryngitis. The latter disease, independent of the

* Traité de Path. Int., vol i., p. 317.

class of cases occasioned by scalding water, does occur also in children, but it seems to be very unfrequent. It is a striking, and as it appears to me, a singular pathological fact, that it should occur so rarely, if it does at all, in connexion with membranous laryngitis.

It is said, further, that edematous laryngitis has been or may be confounded with purulent infiltration or abscesses in and about the larynx and pharynx; aneurism of the aorta pressing upon the trachea; a foreign body in the air passages; asthma, and so on. Such difficulties may sometimes be met with, but with our present means of diagnostic investigation, and a careful application of them, they will be so rare and exceptional as to be of but little importance.

ARTICLE IX.—Theory.

I do not think there can be any reasonable doubt as to the nature of this disease. Two principal opinions have been adopted in regard to it. One of these is that the disease is a simple dropsy, and that when inflammation is present this is accidental. This was the doctrine of Bayle. He regarded the disease as essentially unlike laryngitis. The other opinion is, that the disease is inflammatory, and that the cellular infiltration is the result of inflammatory action. I think this view is the true one. It is very ably, and I think quite conclusively argued and illustrated by Valleix. The principal reasons for it are these. In many cases, there is pus in the cellular tissue; these cases must at least have had an inflammatory element in them. In many cases, the infiltration, even if wholly serous, is evidently connected with and dependant upon some local inflammation in its immediate vicinity. The fact seems to be, in these cases, that a slight degree of inflammatory irritation spreads from the original inflammation to the loose cellular tissue about the glottis, and thus gives rise to the effusion. I do not say that there cannot be, or that there

is not, occasionally, an instance of pure, non-inflammatory edema of the glottis. Such an assertion would not be in accordance with our rigorous and positive philosophy. I only mean to say, that in very many cases, there is conclusive proof of the inflammatory character of the disease, and that in those where this proof is wanting, the fairest and most rational interpretation of all the phenomena is in no way inconsistent with this doctrine. No fact in pathology is better established, than that many inflammations, especially those of recent occurrence, and of moderate or slight severity, like that under consideration, leave no traces or results that are appreciable after death. The conclusion to which I come, then, is this, that edema of the glottis is the result of an inflammatory action, more or less violent, spreading in many cases from an original inflammatory centre in the neighborhood of the glottis, or extending from the mucous membrane covering the infiltrated tissue.

M. Fleury has controverted this view, and insists very earnestly on the purely dropsical and non-inflammatory nature of the disease. I have not seen his paper. It is quoted by Valleix.*

ARTICLE X.—Treatment.

Sec. 1. *Medical Means.*—The simply medical treatment of this disease, however prompt, energetic, and judicious, is generally unsuccessful. The whole history of the disease bears witness to the truth of this. Still, it is none the less true, that cases are sometimes saved, apparently by treatment. Cruveilhier is very confident that he has arrested the progress of the disease in many instances. The means, generally used and principally relied upon, are bleeding, general and local; emetics; mer-

* Mem. de l'Acad. Roy. de Med., vol. xi., p. 129.

curials; and blisters to the throat. I do not know that there is any objection to the proper and timely use of these means; only let it be remembered that they are much more likely to fail than to succeed, and that they are not to be depended upon.

Sec. II. *Scarification of the edematous parts.*—Dr. Marshall Hall published, in 1821, in the Medico-Chirurgical Transactions, an account of four cases of inflammation of the throat, occurring in children and occasioned by attempting to drink scalding water from the mouth of a teakettle. In speaking of the treatment, he says: "If the suffocation were imminent, I should not hesitate to propose laryngotomy, or tracheotomy, and the former would appear to reach below the seat of the affection.—*But I now regret that I did not propose scarification of the epiglottis and glottis, so as to evacuate the blisters.*" This most important and sagacious suggestion seems to have attracted no attention.

M. Lisfranc published a paper on the disease in the Journal Generale, for 1825, in which he gives a history of five cases treated by scarifying the edematous parts. I have not been able to procure this article, and I copy the following account of the operation, written by Valleix, from Dr. Buck's paper: "M. Lisfranc first conceived the idea of evacuating by means of incisions more or less numerous, the serous or sero-purulent fluid engorging the submucous tissue of the larynx. This surgeon cites five cases in which this operation was followed by an immediate change, and subsequently by a complete cure. In a sixth case, several similar operations, at variable intervals, acted only as palliatives. Extensive lesions of the larynx existed, which at length caused the death of the patient.

"The following is M. Lisfranc's mode of scarifying the larynx: Take a long, narrow-bladed, slightly-curved bistoury, in a stiff handle, protected with a strip of linen to

within half an inch of the point. Let the patient open his mouth wide, and have the jaws kept apart by means of a cork placed far back between the molar teeth, one end of the cork being held by an assistant. The patient being placed in front of the operator with his head supported against the breast of an assistant, pass the index and middle finger of the left hand into the mouth, till they reach the swollen edges of the larynx, glide the bistoury flatwise upon the finger, holding it as you would a pen. On reaching the larynx, direct the edge forward and upward, then after having elevated the handle, depress it gradually, at the same time pressing gently upon the point. At first a few punctures only should be made, as by the aid of pressure two or three small incisions are sufficient. They may easily be multiplied in the same way if judged necessary.

"These scarifications produce a flow of the infiltrated matter and sometimes a slight oozing of blood, which effects a salutary disgorgement. The cough, excited by a few drops of serum falling into the larynx, contributes much to diminish the swelling. The immediate beneficial results of these scarifications might be partially defeated, by their occasioning more or less inflammation of the larynx and surrounding parts. In such a case recourse must be had to general or local bleeding, which would soon disperse this traumatic inflammation."*

This most interesting and important announcement of the celebrated French surgeon seems to have attracted but little favorable notice. It is difficult to understand the causes of this, unless they are to be found, in part at least, in the unfriendly personal relations so notoriously existing, for many years, between M. Lisfranc and most of his distinguished contemporaries, and the ferocious

*Dr. Buck's paper on Edematous Laryngitis. Trans. Amer. Med. Asso., vol i., p. 150.

and violent hostility which he so constantly exhibited towards them. Some ten years after the publication of M. Lisfranc's memoir, M. Cruveilhier says, certainly with a deliberate rudeness—a much harsher term would be more appropriate—as inexcusable as it is unaccountable: "Finally, M. Lisfranc has proposed to make scarifications upon the infiltrated parts. *I doubt whether this litlitte operation has ever been performed!*"* M. Valleix, some twenty years after the appearance of Lisfranc's memoir, remarks that the operation proposed and practiced by him, *ought to be taken into serious consideration.* He thus enumerates and answers the principal objections that had then been made to it. First, it was alleged that in a large number of cases, the edematous swelling could not be recognized by the touch. The answer to this is, that if the exploration is properly and skilfully made, the edematous tumors *can be, and are,* in most cases, recognized; and that where they are not felt, the operation is not to be attempted. The second objection consisted in the alleged difficulty of the operation. "But," says M. Valleix, "this objection is not a serious one, since the difficulty was overcome so successfully in the cases of M. Lisfranc." Finally, it was said, that admitting the possibility of making the scarifications, only a slight amelioration could be obtained, since, according to the observations of Bayle, the infiltrated fluid escapes very slowly, even when numerous incisions have been made. To this objection, it is sufficient to reply, that in Lisfranc's cases, the relief was immediate, and consequently the escape of fluid must have been sufficiently free.†

It appears, also, that M. Marjolin, on some occasion, though at what time I am unable to say, lacerated the edematous edges of the larynx with a piece of althea root,

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*Dic. de Med. et de Chir. Prat., vol. xi., p. 41.
†Mem. de l'Acad. Roy. de Med., vol xi., p. 182.

and that the patient recovered. Acting on this hint, M. Legroux, I suppose in 1839, proposed lacerating the edematous tumors with the finger nail, sharpened and roughened for this purpose. In two cases, M. Legroux says, he saved his patients by this simple means. In regard to all the foregoing direct surgical measures, M. Valleix very sensibly and properly says: "It would be very wrong to contemn or neglect them, for it is certain that many times the lives of patients have been saved by them."*

Mr. Frederick Ryland, the author of an elaborate and in many respects very valuable monograph upon diseases of the larynx and trachea, and which has been pretty extensively circulated in this country, by its reprint in Dunglison's American Medical Library, writing as late as 1837, disposes of this most grave and important matter in a very summary and quite a different manner. After alluding first to the plan of M. Tuilier, of making pressure from time to time, by means of the finger, upon the distended lips of the glottis, in order to promote the absorption of the effused serum, and then to Lisfranc's operation, he says: "But both plans are fantastic, very difficult, if not impossible of accomplishment, and more likely to increase than diminish the existing mischief."†

Mr. Hodgkin, in 1840, says: "Were it possible to effect a slight scarification of the edematous parts, not only immediate relief but permanent advantage would probably be derived from it."‡

Such are the principal facts, as far as I have been able to ascertain them, in the history of this operation, up to the years of 1847 and 1848. At that time, a most important addition was made to our experience, and a new and fresh interest given to the subject by the observations

*Mem. de l'Acad. Roy. de Med., vol. xi., p. 184.
†Ryland on Dis. and Inj. of Lar. and Trachea.
‡Lect. on Morb. Anat., vol. ii, p. 51.

of Dr. Gurdon Buck, of New York, one of the surgeons of the New York Hospital. It has already been stated that between the months of December 1847, and February 1848, there occurred in the hospital no less than seven cases of this disease. Dr. Buck, in his own words, more than a year previous to the occurrence of the first of these cases, and without any knowledge at that time of any similar method of cure having been practiced or proposed by others, was led to the conviction that scarrifications of the edematous edges of the glottis, as well as of the epiglottis, might be employed as an effectual means of relief in this formidable disease.

The following is Dr. Buck's description of his mode of operating:—

The patient being seated on a chair, with his head thrown back, and supported by an assistant, he is directed to keep his mouth as wide open as possible; and if there be any difficulty in this respect, a piece of wood an inch and a quarter in width, and half an inch in thickness, is to be placed edgewise between the molar teeth of the left side. The fore-finger of the left hand is then to be introduced at the right angle of the mouth, and passed down over the tongue till it encounters the epiglottis.

But little difficulty is generally experienced in carrying the end of the finger above and behind the epiglottis so as to overlap it and press it forwards towards the base of the tongue. In some individuals the finger may be made to overlap the epiglottis to the extent of three-fourths of an inch.

Thus placed, the finger serves as a sure guide to the instrument to be used. The knife is then to be conducted with its concavity directed downwards, along the finger till its point reaches the finger nail. By elevating the handle so as to depress the blade an inch to an inch and a half further, the cutting extremity is placed in the glottis between its edges; at this stage of the operation the knife is to be slightly rotated to one side and the other, giving it a cutting motion in the act of withdrawing it. This may be repeated without removing the finger two or

three times on either side. The margin of the epiglottis, and the swelling between it and the base of the tongue may be scarified still more easily with the same instrument, or scissors curved flatwise may be employed for these parts, guided in the same manner as the knife.

Though a disagreeable sense of suffocation and choking is caused by the operation, the patient soon recovers from it, and submits to a repetition after a short interval. In every instance the operation has been performed twice, and in some three times.

Before proceeding to the operation, it has always been explained to the patient that the seat of his difficulty was a swelling at the top of the windpipe, preventing the air from entering, and the object of the operation was to cut it and let out fluid, and thus give him relief. This explanation corresponds so exactly with his own sensations, which refer to the top of the thyroid cartilage as the seat of obstruction, that he readily submits to the proposed operation, and renders all the co-operation in his power for its performance.

A slight hemorrhage follows the scarifications, and should be encouraged by gargling with warm water. In one instance the quantity of blood mixed with sputa amounted to half a wineglassful.

Dr. Buck's first operation was performed on the 13th of April, 1847. The patient was a seaman, thirty-one years old. After exploring the parts with the finger, and ascertaining the existence of the swelling of the epiglottis, and also allowing his two assistants to do the same, he scarified the aryteno-epiglottic folds and the epiglottis, partly with scissors curved flatwise, and partly with a sharp pointed bistoury, guarded to within one-third of an inch of its point by a narrow strip of adhesive plaster wound around it, and conducted to the parts upon the fore-finger of the left hand, previously introduced at the right angle of the mouth. Two or three repetitions were requisite, at short intervals, to complete the operation. The patient hawked up three or four teaspoonsful of blood, mixed with mucus, and expressed himself as feel-

ing relieved. He was then, bled to the extent of twenty ounces, and took grain doses of tartar emetic. He continued to improve daily, and was discharged well, on the 23d.

Dr. Buck's second case was operated upon, January 13th, 1848. The patient was thirty years old, and was attacked with the disease the day before. In addition to the ordinary well marked symptoms of the disease, the epiglottis was distinctly felt to be swollen, and its margin thickened and folded together, both by Dr. Buck and Dr Swett. The pouches between the epiglottis and the base of the tongue were filled up by a soft pulpy swelling. At 10½ o'clock, Dr. Buck scarified the edges of the glottis as well as the epiglottis, and the swelling anterior to it, with the bistoury and curved scissors, as in the first case. Slight hemorrhage followed, and was encouraged by a warm water gargle. The exploration of the parts, as well as the operation itself, did not cause much disturbance, and the patient expressed decided relief. At 2½ o'clock, P. M., the same day, he breathed more calmly and felt still further relief. He passed the following night very comfortably, and the next morning expressed himself quite well. The swollen parts were ascertained by the touch to have very much diminished. He recovered without any repetition of the scarifications.

The third operation was done on the 29th of February. The patient was 50 years old. The epiglottis was examined by the touch, by Dr. Buck, and by several of his colleagues, and felt to be swollen, thickened, especially at its margin, pulpy and convoluted upon itself. The patient had been bled, vomited, and had taken twenty grains of calomel. The edges of the glottis and epiglottis were scarified with a curved instrument, designed by Dr. Buck expressly for this purpose, the operation being repeated two or three times, at a few moments' interval. The patient was relieved and continued comfortable till the sec-

ond day, when the dyspnea having increased, the scarifications were repeated with the guarded bistoury, but the operation was not satisfactorily done. On the third day the patient was worse, and the epiglottis was felt to be more swollen. At 3 o'clock, P. M., the scarifications were repeated with the curved knife. At 6 o'clock, P. M., although the patient expressrd himself as somewhat relieved, the dyspnea was so urgent that Dr. Buck and Dr. Hoffman urged him to submit at once to tracheotomy. This he refused to do. An erysipelatous blush had shown itself on the right cheek. On the following day the patient was rather better, and then steadily improved till he was well. He took calomel and antimony regularly during the continuance of the disease.

The third case occurred nearly at the same time and was cured by the same means. There was nothing special in its history to render it worth while to give an abstract of it.

The fifth operation was performed on the 5th of March. The patient was an athletic seaman, 24 years old. "He lay," says Dr. Buck, "upon his right side, with his face near the edge of the bed, his eyes closed, and his countenance pale and of a leaden hue. His features were altered and of an almost death-like expression; the skin was bathed in perspiration, and every muscle of the trunk seemed to be brought into powerful action to perform the act of inspiration, which was protracted and sonorous, while that of expiration was short, easy, and unobstructed. This condition had existed about six hours." The evening previous, Dr. Swett had ascertained by the touch the existence of a moderate degree of swelling of the epiglottis. No time was lost in scarifying the edges of the glottis and epiglottis, with the curved knife. The operation was repeated two or three times at short intervals, and followed by a small quantity of blood in the sputa. After waiting half an hour, it was thought by Dr. Buck

and Dr. Swett, most prudent, considering the urgency of the symptoms, not to rely exclusively upon the scarifications, but to give the patient the additional chance of tracheotomy. This was accordingly performed without delay. Great difficulty was encountered from the depth of the trachea, the swelling of the superjacent parts, the resistance of the patient, and the copious venous hemorrhage. On incising perpendicularly the three superior rings of the trachea, the air rushed in with great force, and breathing was soon established through the artificial passage. The happiest effects promptly followed. The patient, from being exceedingly turbulent and excited, became tranquil and submissive. The respiration grew calm and required no effort, and the countenance resumed its natural expression. On the following day the patient was doing well and the swelling of the epiglottis had decidedly diminished. After removing the tube from the trachea, to cleanse it, the sides of the wound were pressed together so as to close the opening, when it was found that respiration through the larynx could be performed with considerable facility, showing clearly that the swelling of the glottis had already very much diminished. On the second day the patient was able to breathe with natural facility through the larynx. He recovered rapidly and entirely.*

Such is a brief abstract, given in good part in his own words, of Dr. Buck's five cases.

They constitute, it seems to me, one of the most interesting and brilliant series of cases to be found in the records of medical art. It is very true that the operation, as has already been stated, was not a new one, and that it had been several times successfully performed many years ago. But it is also true that it had not only failed to attract any general attention, and to establish itself in

*Trans. Amer. Med. Asso. vol. i, pp. 137, 144.

the confidence of the medical public, but it had been doubtingly and disparagingly spoken of by one, at least, of the most distinguished and authoritative contemporaries of its author. Dr. Buck was not aware that the operation had ever before been either performed or proposed. It may perhaps turn out, hereafter, that these five successive and successful cases have been marked by that unwonted favorable fortune which seems to accompany, so frequently, the advent and the early history of new remedies and new methods of treatment, and that occasional or frequent failures may occur to shake the confidence which these cases have created in the operation, and to lower in a corresponding degree our estimate of its value; but there is every reason, I think, that can be derived from the nature of the disease, and of the operation, not only to hope but to believe that such wi l not be the case; and that this simple, direct, and rational method of cure, first devised and performed by Lisfranc, and after the neglect if not the general forgetfulness of quarter of a century, again originated and revived by Dr. Buck, will take its fixed and permanent place amongst the established and most valuable resources of art. One of my principal objects for making this compilation was to aid in diffusing an adequate knowledge of this operation.

The choice of an instrument for the performance of this operation is a matter of some importance. Lisfranc used a long narrow-bladed slightly curved bistoury in a stiff handle, protected with a strip of linen, to within half an inch of the point. Dr. Buck, in his two first cases, made use of a sharp pointed curved bistoury, guarded to within one-third of an inch of its point by a narrow strip of adhesive plaster wound around it, and of scissors curved flatwise. He then had a curved knife designed expressly for the operation. Its general form is very much like that of the common gum lancet, with the fixed handle, used by dentists. It is about an inch longer, and the

curve, instead of being half an inch or so in length, as in the lancet, is about an inch long. It is not probable that practitioners will generally provide themselves with Dr. Buck's knife. It is important for them to know that the curved bistoury properly guarded, or the dentist's gum lancet, will answer the purpose. For want of a better, and in case of emergency, an instrument might be made by fastening, simply by winding thread around them, the blade of a common gum lancet to a straight stiff handle, of suitable length. Let it be remembered that the operation is never to be omitted or deferred for want of exactly proper or suitable instruments, since it can be done with such as are of ruder contrivance and less adapted to the purpose even than any above mentioned. In any event the physician has his index fingers; let him roughen and sharpen the nails of these, and he may thus lacerate and tear the infiltrated tissues so as to give exit to their contents.

SEC. 3. *Tracheotomy.*—Setting aside, for the present, the preceding operation, or supposing it to be for any reason either impracticable or unsuccessful, there can be no doubt whatever, of the great value and the paramount importance of tracheotomy. In case of either of the above contingencies, it ought undoubtedly to be resorted to, and it ought to be performed, always, before the phenomena of asphyxia have become much developed. The chief cause of its frequent failure is without doubt to be found in its having been too long delayed.

ARTICLE XI.—DEFINITION.

Edematous laryngitis, or edema of the glottis, is a serous purulent, or sero-purulent infiltration of the lax submucous cellular tissue of the glottis and its immediate neighborhood; affecting especially the aryteno-epiglottic folds, the upper surface and the borders of the epiglottis, ren-

dering the tissue tense and tumid; accompanied in most cases with a pale, whitish, red, or blueish red color, or with some other morbid condition of the mucous membrane covering the infiltrated parts; sometimes occurring suddenly, but in most cases coming on somewhat gradually, and marked by the following symptoms, to wit:—pain, or uneasiness, more or less distressing, at the upper part of the larynx; a sensation of a foreign body lodged in the posterior fauces; cough; hoarseness, feebleness, or loss of voice; in many cases, more or less difficulty of deglutition; in all cases, difficult and laborious respiration, the inspiration usually much more so than the expiration; the dyspnea constant, but attended by occasional paroxysms of terrible and frightful intensity, and steadily increasing in degree and severity, unless relieved by art; the infiltrated and tumefied parts capable of being reached and their condition appreciated by the finger: the march of the disease rapid; its duration short, varying from a few hours to a few days; occurring, in nearly all cases, in subjects already suffering with disease, and especially in patients convalescing from fevers of a typhoid character; and in persons already affected with some local inflammation in the vicinity of the glottis; terminating almost constantly in death, unless relieved by art, only to a very moderate extent under the control of medicine, but susceptible of entire relief, in most cases, by scarification of the infiltrated tissue, and the consequent escape of the effused fluid, aided, where there is a pressing necessity for it, by tracheotomy.

ARTICLE XII.—History and Bibliography.

The first historian of edematous laryngitis, in any degree complete and authentic, was Dr. G. L. Bayle, of Paris. The disease is his, by the same title that albuminuria is Dr. Bright's. His original Memoir on Edema of the Glottis, or Edematous Laryngeal Angina, was read before the Society of the School of Medicine, of Paris, on the

18th of August, 1808. This memoir was not published till 1819, when it appeared in the Journal de Medecine et de Chirurgie. The first publication by Bayle, appears to have consisted of the substance of this memoir, as an article in the Dictionary des Sciences Medicales, in 1817. This article contains a very clear, succinct, and accurate account of the disease, to which, subsequent and more varied and extensive observations have made but few additions.

Several of the older anatomists and pathologists, amongst whom may be mentioned Bonetus, Morgagni, and Lieutaud, had seen and described the edematous condition of the glottis, and were aware of its formidable nature, but they left no full and explicit account of the disease. Bichat had, evidently, a very correct knowledge of the disease. In his Descriptive Anatomy, published before the appearance of Bayle's Memoir, he says: "It is certain that the portion of the laryngeal mucous membrane which forms the superior opening of the larynx, is subject to a peculiar species of serous engorgement, which does not manifest itself in any other place, and which, thickening very greatly the walls, suffocates the subjects in a very short time." In another place, after giving some account of experiments upon dogs, in which he made incisions below the tongue and pierced the epiglottis, he says: "In one instance, a dog, submitted to this experiment, died the following day, with a serous angina, exactly like that with which patients are all at once suffocated, and which has its seat in the two folds of mucous membrane extending from the arytenoid cartilages to the epiglottis."*

The Essay of Tuilier was published as a thesis in 1815. It was important and valuable principally from its containing an account of the signs of the disease, derived from the touch. Bayle says of it: "There will be found

*Mem. de l'Acad. Roy. de Med., vol. xi., p. 88.

in this essay—1st. A report of four cases which had not before been published. 2nd. An account of the pathognomonic palpable sign of the disease. And 3d. Various points of doctrine very ably discussed, especially that relative to the introduction of a sound into the larynx, proposed in 1813, by M. Louis-Benoit Finaz de Seizel.—I have not seen this thesis of Tuilier; and I derive my knowledge of it from Bayle and Valleix.

Lisfranc's memoir was published in the Journal Generale for 1825. Cruveilhier's article, in which he expresses his disbelief in the fact of Lisfranc's operation ever having been performed, is contained in the eleventh volume of the Practical Dictionary of Medicine and Surgery, published in 1834. Trousseau and Belloe's prize essay upon laryngeal phthisis, containing important observations upon the disease, was published in 1837. Legroux recommended lacerating the swollen parts with the finger nail, in 1839.*

The full and elaborate memoir, by Valleix, is contained in the eleventh volume of the Memoirs of the Royal Academy of Medicine. The occasion of its being written was a question proposed by the Academy in the following terms: "*To ascertain what are the causes of edematous laryngeal angina (edema of the glottis); to make known its march, its successive symptoms, and its differential diagnosis; to discuss, in its treatment, the advantages and disadvantages of tracheotomy.*" The memoir occupies one hundred and ten pages, in quarto, of the volume, and, it is hardly necessary to say, is marked throughout by the clearness, ability, and sound practical philosophy of its author, and of the school of observation to which he belongs.

Dr. Buck's paper is contained in the first volume of the Transactions of the American Medical Association.

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*Valleix. Mem. de l'Acad. Roy. de Med., vol. xi., p. 89.

ART. III.—*Cases at the Louisville Marine Hospital.* By DAVID W. YANDELL, M. D., of Louisville, Ky., Attending Physician for the Faculty at the Hospital.

Case 1. *Gastritis—death after seventeen days illness—gastric mucous membrane red and friable.* Michael Brosman, æt. 30, laborer, a hard drinker, was admitted into the hospital on the 29th of January. Ten days before, after having been on a long "spree," he was seized with severe diarrhea. This was in New Orleans. The next day he took a boat for Louisville. Notwithstanding the free use that he made of brandy and water to check the disease, instead of improving, he grew worse, and on the fifth day from port he felt an acute pain in the epigastrium, and soon after everything he swallowed was rejected. His discharges grew less and less frequent, and at the end of forty-eight hours, had entirely ceased. He vomited almost incessantly small quantities of bilious matter, which he described as being excessively bitter. All drinks which he endeavored to take, were instantly rejected. He had very acute pain over the epigastrium, while the remainder of abdomen was entirely free from it. His thirst, which was almost intolerable, he feared to satisfy, because the smallest quantity of water taken into the stomach produced vomiting. He supposed he must have had fever, though he never counted his pulse. His skin was very dry and hot—his mouth parched and burning. During the trip from New Orleans, three deck passengers died from cholera. He had had slight disposition to general cramp, and actually suffered several times with very painful cramps of his hands and feet. He was unable to sleep; had slept none for several days in succession; had been troubled with frightful sights, one of which, in particular, had greatly distressed and alarmed him,—a horse without a head, that appeared to be stand-

ing on the foot of his bed. Five days passed on in this way; the boat reached Louisville, and the patient was brought to the hospital. The following was his state at this time:—

His countenance was pale, and expression both anxious and heavy; he was very feeble, and spoke with a faint husky voice. The tongue was covered with a white coat —intensely red at edges and tip, dry and cool. No stools for three days. Patient had vomited repeatedly in the preceding twenty-four hours; all ingesta were promptly ejected. Thirst; anorexia; cephalalgia; mouth dry and parched; skin relaxed, cool and covered with a clammy perspiration. Pulse was 90, small and very feeble. Respiration laborious, heavy and slightly accelerated. Intellectual faculties obtuse. Hands and feet corrugated. Patient complained of great pain over the region of the stomach, where the tenderness was exquisite on pressure. The remaining abdominal viscera appeared, on palpation at least, healthy.

My prescriptions for the morning were small quantities of calomel and morphine, given at short intervals until sleep was procured; leeches to the epigastrium, to be followed, if it did not, by its weight, excite too much pain, by a flaxseed poultice; in the event of its being disagreeable, cloths, wrung out of warm water, were to be applied, in order to assist the bleeding from the leech-bites. Small pellets of ice were allowed the patient as often as he desired, and this was the case almost incessantly. At bedtime, if the vomiting continued and the patient had slept none, the quantity of morphine was to be increased and mustard sinapisms were to be applied to the spine over the origin of the gastric nerves. A stimulating cathartic injection to be administered immediately.

On the following day there was a slight amendment; the vomiting had not altogether ceased, but it was less copious and less frequent; the patient had been able to

retain a small quantity of mucilage that he had taken; the pain in the stomach was less; the tenderness very slightly, if at all, diminished. Bowels moved twice; stools thin and yellowish. The patient slept a few hours —awoke delirious, and continued somewhat so at visit. Pulse 100; skin not so cool; dry. Other symptoms materially the same as on the day before. ℞. Leeches, anodyne injections, ice, cloths wrung out of ice-water and ice in substance over the stomach. Omit calomel, and give morphine only, every few hours.

During the next twenty-four hours, the state of the patient, in some respects, steadily improved. The vomiting ceased; the pain and tenderness disappeared; the thirst abated; the delirium passed away. Still the pulse retained its frequency and adynamic characters; the tongue continued red, and had become dry and coated with a brownish fur; the teeth were covered with sordes; the respiration was not less laborious; the countenance remained unchanged, and the patient expressed himself as feeling no better. His bowels had been operated on but once. Continue ice; omit other prescriptions.

The condition of the patient now assumed the characters so universally observed, where cholera prevailed, which followed violent attacks of that disease The generally low, muttering delirium, alternating with extreme sluggishness of the intellectual faculties; the hot, dry skin; the quick, small and feeble pulse; the dry and parched mouth; the glazed and dry tongue; the intense thirst; the complete anorexia, and the extreme physical weakness which so constantly supervene in severe cases of cholera, after the acute symptoms have subsided, and especially when the disease is passing to a fatal termination, were all present in this instance.

All appreciable physical, and, indeed, rational signs of gastritis disappeared for the space of four days, during which time the symptoms were those above described,

when, on the morning of the 8th of February, the patient complained of pain in the pit of the stomach, and this organ again became tender on pressure.

On the 7th, copious epistaxis set in, and continued, notwithstanding the repeated application of cold and astringents, and the internal administration of these latter substances in large quantities, for thirty-six hours; when the house pupil deemed it necessary to resort to tamponing the posterior nares, by which the hemorrhage was arrested. During this time the nurse thinks that the patient must have lost two quarts of blood.

At the clinic, on the afternoon of Friday, (the 8th) the condition of the patient was as follows: Great pain and tenderness, on pressure, in epigastrium; skin cool; pulse 115, small and thready; face heavy; mind dull; thirst; loathing of food; voice feeble; respiration labored; mouth and lips dry; inside of mouth and fauces painful, and covered by a distinct diptheritic eruption; tongue dry, glazed, brownish in centre, and intensely red at edges and tip. Three alvine dejections in preceding twenty-four hours; thin and watery. Great increase of debility seemed to accompany the development of the eruption.

Prof. Bartlett coincided with me in the use of a large blister over the stomach, and the administration, at intervals of four hours, of six grains of calomel and half a grain of morphine.

That night the features became perceptibly altered; the pulse continued frequent; the voice grew more and more feeble, hiccough, vomiting from time to time, wandering delirium, and the patient rapidly sank till Sunday, the 10th, when, at 11 o'clock, he died.

Postmortem Examination.—Mucous membrane of the stomach of a bright red color, along lesser curvature and pyloric orifice, and of a dark grayish hue over remaining portion; softened throughout. Mucous membrane of duodenum, at its superior third, red and somewhat softened.

In this case, the epigastrium was the seat of an acute pain, which did not, however, as in most instances, continue throughout the entire course of the disease, there being an interval of four or five days, during which the inflammation had evidently been partially subdued, when there was no pain whatever complained of by the patient.

There is a case related by Andral, in his Clinic, of gastritis arising from over-eating during convalescence from cholera, in which the following train of symptoms was observed, without there being the *slightest pain in the epigastrium:* eyes dull and sunk, as when he had cholera; tongue presented nothing particular; burning thirst; vomiting; no pain in epigastrium or rest of abdomen; pulse frequent; skin not hot; some liquid stools.

For twenty-five days, patient remained in a state of continued fever, with tongue constantly dry and red; burning thirst; constant nausea; occasionally vomited either thready mucus, or yellow or greenish bile. *Abdomen, including epigastrium, was free from pain in all its points.* Obstinate constipation. Died, as if exhausted, without a struggle and with intellect perfect.

It was my misfortune, last summer, during the prevalence of the cholera, to meet with cases corresponding to the one which I have condensed from the great work of Andral; but, at the time, being unable to make a note of them, I cannot report them.

Touching the symptoms of gastritis, Andral holds the following language: "There is no symptom necessarily connected with the disease which it indicates in very many cases, and there may be acute gastritis without vomiting and without pain, as there are instances of pleuritis without stitch in the side, and pneumonia, without the rust-colored expectoration."

Case 2. Wound of the Brain—Epileptiform symptoms—Death three months after—Abscesses in the Brain.—Matthias Gross, æt. 27, born in Strasbourg, of feeble health

and dissipated habits, was received into hospital on Nov. 27th, for traumatic inflammation of left eyelid. Having had, on the evening of admission, several slight, short, epileptiform attacks, he was transferred to medical wards, where I first saw him on the morning of the next day.—His physiognomy was stupid, almost fatuous; mind same; answered first questions in French; soon after, run off into a low, listless tone, in German. Surface of body pale and cool. Pulse 60, feeble. Tongue furred on middle and tip, edges clean and smooth; moist. Says his appetite is good; no thirst; bowels costive. Complains of dull heavy pain in the head—constant, but more severe at one time than at another. Gets up in the night and wanders about; does not seem to know what he wants. Has fits at short intervals during the day—they were also brought on by lifting him up in bed, and by addressing him suddenly in a sharp tone of voice. They were slight and lasted but a few minutes.

The wound of the eyelid excited no attention, until one day the patient told me that three months before his admission into the hospital, it had been inflicted with a pocket knife in a street brawl. He had hardly stated this much, when he was seized with a convulsion, and all further replies to my questions became impossible. A careful examination of the wound only revealed that in depth it reached to the bone, and its width was equal to that of the large blade of a common Congress pocket-knife. At the visit, on the following day, I learned that the patient had received, on the same occasion, a stab in the abdomen, which confined him to his bed for two weeks. A few days before leaving his bed, he had several convulsions. They were slight, however, and only of a moment's duration—so slight and so brief that they did not excite his attention, until he found that they gradually increased in frequency; and, finally, during the four or five succeeding weeks, at least, they amounted to fifteen or

.wenty during the twenty-four hours. The general health became impaired. He had no appetite; could get no sleep; emaciated rapidly, and lost his mind.

The general appearance and air of the patient led Dr. Bartlett to suspect that he might be guilty of onanism.—He consequently desired me to have him carefully watched. Although this was done, for some time, no proof was discovered of indulgence in this practice.

Things wore gradually on. The patient lost all power of intelligible speech, and mumbled answers to my questions, each attempt to speak being followed immediately by a convulsion. The symptoms grew daily worse; hectic fever and night sweats came on, and soon after colliquative diarrhea; the pulse became more and more feeble; the intellectual faculties were finally altogether destroyed, and the patient, after lying for two days in a state of profound stupor, died on the

Postmortem Examination.—On removing the skull cap, a knife-blade, an inch and a quarter in length was found projecting into the substance of the brain. It had entered the cavity of the cranium on a line with the superior and inner third of the orbital plate of the frontal bone just below the superciliary ridge, and was so firmly imbedded in the bone that it was impossible to remove it.—Externally the blade had been broken off on a line with the bone, which accounts for its not having been discovered in the examination of the wound. Three large abscesses, communicating with each other, were found in the left hemisphere of the cerebrum—the first situated at the point of the blade, the other two placed below and internal to it. The greater part of the cerebral mass upon that side, was in a softened and even pulpy condition.—The other organs healthy.

Louisville, Ky., Feb. 20, 1850.

ART. IV.—*Programme of a Premium offered by the Society of Pharmacy, of Paris.* Translated for this Journal from the Journal of Pharmacy, December, 1849.

It is a question, that, for a long time, has engrossed the attention of pharmaceutists, how they might be able to make a substitute for the sulphate of quinine; or, at least, so to reduce the price as to admit of its use in all cases, in which its exhibition is attended with benefit.

This question has been examined, in its different aspects, in a great number of publications: it would be useless to enter into detail, concerning the advantages attached to its solution.

The Society of Pharmacy thought that the answer to the problem might be attempted, with some chance of success; and that, in the present state of science, it might not be impossible to prepare the sulphate of quinine directly; therefore, they have resolved to make an appeal to the chemists on this subject, and hope they will receive an answer.

It would have been, but a few years since, great folly to demand the processes of chemistry to create directly, with purely inorganic elements, products generated, up to that time, solely by the influence of life.

But, in its onward march, science has shown that it already possesses a certain class of bodies, which it is able to form directly and entirely, without the living tissues, in which they are ordinarily developed.

Thus, urea, to cite an example admitted by all the world, can be produced, entirely, from its carbonate; composed of hydrogen, oxygen and nitrogen; and the time is not so far distant, we may hope, when the problem will, in all its forms, be resolved; that is, when we shall be able, an organic body being given, and its composition being known, to reproduce it, either by imitating

the synthetical processes, yet unknown, by which *Nature* produces it; or by the employment of means of which chemistry, at the present day, is possessed: as in the case of urea. So far as regards the alkaloids, we are at present acquainted with a vast number, and, among them, many that are exclusively artificial products.

The modes of formation of compounds of this class, are so well known and varied, that they may easily be produced; and there is no chemist who might not be able to enjoy the satisfaction of obtaining a new alkaloid, as well as an acid, an alcohol, or an ether. Many natural organic alkalies, besides urea, have already been obtained artificially; and it is not the first time that chemists have expressed the opinion, that they will yet be able to prepare directly the alkalies of cinchona and of opium.—Messrs. Dumas, Gerhadt, Kopp, and others, have already expressed this notion.

A new and very important step has been made, towards the solution of this problem, by the remarkable work of M. Wurtz, who has made known to us a large number of artificial alkalies, derived from ammonia, and all of them capable of being expressed by one general formula AzH^3 ($C^m H^{m-b}$) that is to say, by ammonia and carburetted hydrogen.

Each of these alkaloids constitutes, thus, one of the terms of a series, of which carburetted hydrogen, which it embraces, will be the point of departure; or, in other words, the primordial carburetted hydrogen being given, we have, by its combination with one equivalent of ammonia, an alkaloid: as we can obtain from the same radical, an alcohol, an aldehyde, an acid, or an ether, supposing it to combine with various equivalents of water and oxygen.

The principal methods by which we have thus far obtained the alkaloids are the following:

1st. The transformation of certain ammoniacal com-

pounds—thus: Urea is obtained by the simple transformation of the cyanate of ammonia.

Furfurine is obtained from furfuramide.

Amarine is obtained from hydrobenzamide.

Melamine is obtained from sulphocyanuret of potassium.

2d. By the reduction of certain nitrogenized bodies by sulphuretted hydrogen or hydrosulphuret of ammonium.

Aniline is obtained by the reduction of nitrobenzide.

Toluidine is obtained by the reduction of nitrobenzoene.

Cuminine is obtained by the reduction of nitrocumene.

3d. By the distillation of certain organic bodies in connection with potassa. These are

Quinoleine, produced by the action of potassa on quinine, cinchonine, or strychnine.

Aniline, produced by the action of potassa on isatine.

Conicine, produced by the action of potassa on the unknown principle of hemlock.

Nicotine, produced by the action of potassa on nicotianine of tobacco.

Valeramine, or *amyliaque*, produced by the action of potassa on the cyanate of amyline.

4th. The dry distillation of certain products.

The distillation of coal furnishes *aniline*, known by the name of kyanole.

Quinoleine, known by the name of leucol.

Pyrhol, picoline, &c.

5th. Some alkaloids can be obtained by the desulphuration of certain oils, or sulphuretted alkaloids. Thus:

The oil of mustard desulphurretted, furnishes *sinamine* and *sinapoline*.

6th. Finally, we can, by means of natural alkalies, submitted to certain reactions, obtain a vast number of other substances possessing alkaline properties.

Such are, in particular, all the derivatives which we

produce by substitution, or in replacing one or more equivalents of hydrogen in these compounds, by chlorine, bromine, iodine, etc.

For reasons, before announced, the Society of Pharmacy, of Paris, offer a reward of 4000 francs to the chemist who will discover the means of preparing artificially the sulphate of quinine; that is: without employing in the preparation, either cinchona or any other organic matter contained in quinine already formed.

In case this problem is not resolved, the reward will be bestowed on the author of the best work making known to us a new organic product, natural or artificial, having medicinal properties equal to those of quinine, and which can be placed commercially in competition with it.

The treatise must be addressed to "Le secrétaire général," of the Society, before the first of January, 1851.

Those who wish to reserve their processes, in order to preserve their ownership, should place apart, and under a sealed envelope, the descriptions they do not wish made public. On their demand, the Society will appoint one of their number to take the sole management of the experiments. He shall perform them in their presence. A process-verbal of the operations should be drawn up, before the Society separates, and will remain under seal in the hands of the secretary general of the society.

The Society will determine on the opinions of their delegate. In all cases, samples of the product must be presented to the Committee, and to the Society, to be, if it is deemed necessary, submitted to all the experiments desired.

The quantity of the sample must not be less than 250 grammes.

Hottol, Guibourt, Bouchardat, Gaulteirde, Claubry.—Buignet et Psussy, rapporteurs.

REVIEWS.

Art. V.—*The American Journal of Science and Arts.* By Professor B. Silliman, L. L. D., M. D., &c., &c. Prof. B. Silliman, Jr., A. M., M. D., &c., and James D. Dana, A. M. New Haven, Conn. No. 25, for January, 1850.

More than a generation of men has passed away since the veteran and pioneer of American science whose name still stands on the covers of this Journal, issued its first number.

In that time it has gone uninterruptedly forward to the completion of its first series of fifty volumes in 1845; and the second series has now reached its ninth volume. In 1817, Dr. Archibald Bruce, of New York, issued the first and only volume of the "American Mineralogical Journal," but his premature death arrested the continuation of the work so well begun. With this solitary exception, the "American Journal of Science," was the first Scientific Journal in this country, exclusively devoted to the pure sciences. And it has remained longer under one editor, issued on its original plan, in one series, than any other Journal, scientific or literary, issued in the English language.

It has ever been characterized, from the commencement, by its just, manly, and independent course, attributes which might have been anticipated from the well known urbanity and uprightness of its projector and senior editor.

Prefacing the fiftieth volume of the first series, is a lucid and even eloquent history of the origin and progress of this great American enterprize, which must be read,

by every American, with emotions of just pleasure and admiration.

Our readers will need no apology from us, if we use, in this notice, the facts there given, either in the words of the author, or our own rescript.

It is worthy of remark, that the projector, in the very outset, showed the comprehensiveness and enlargement of his mind, and the just sense he felt of the nature of his task, when he announced, in his first number, the "Plan of the Work." "This Journal" he says, "is intended to embrace the circle of the physical sciences, with their applications to the arts, and to every useful purpose." He thus broadly threw open the door for collaborators in all the numerous departments in the varied fields of physical investigation, and the result has shown the wisdom of his course, for up to the close of the first series, not less than six hundred names were reckoned among the original contributors, who had made this Journal the vehicle of their communications. We are assured, in this preface, that of this large army of scientific men, naturalists, and philosophers, over five hundred were, in 1847, still upon the stage of action, and, indeed, that only some fifty were then certainly reckoned among the dead. "Among them are not a few of the veterans with whom we began our career, and several of these are still active contributors. Shall we then conclude that the peaceful pursuits of knowledge are favorable to long life? This, we think, is, cæteris paribus, certainly true: but in the present instance, another reason can be assigned for our large amount of survivorship. As the Journal has advanced, and death has removed its scientific contributors, younger men, and men still younger, have recruited the ranks, and volunteers have enlisted in numbers constantly increasing, so that the flower of the host are now in the morning and meridian of life.

"We have been constantly advancing, like a traveler

from the equinoctial towards the colder zones—as we have increased our latitude, stars have set and new stars have risen, while a few planetary orbs, visible in every zone, have continued to cheer us on our course.

"The number of articles, almost exclusively original, contained in the Journal, is about 1800, and the index shows how many have been contributed by each individual. * * * * * Of party, either in politics or religion, there is no trace in our work; of personalities there are none, except those that relate to priority of claim, or other rights of individuals. Of these vindications the number is not great, and we could heartily have wished that there had been no occasion for any."

For twenty years, from the inception of this Journal, the editor labored alone, although overtures for editorial coöperation, had been made to him, by gentlemen commanding his confidence and esteem, and who would personally have been very acceptable. It was, however, his opinion that the unity of purpose and action so essential to the success of such a work, were best secured by *individuality*,—but he has made every effort, and not without success, to conciliate the good will and secure the assistance of gentlemen eminent in particular departments of knowledge. In 1838, however, the second of the present editors appeared, for the first time, upon the title page of the July number for that year.

Speaking of this second name, the preface says: "The individual, to whom it belongs, having been, for several years, more or less concerned in the management of the Journal, and from his education, position, pursuits and taste, as well as from affinity, being almost identified with the editor, he seemed quite a natural ally, and his adoption into the editorship was scarcely a violation of individual unity."

The patronage of this Journal, up to the close of the

first series, had never reached one thousand paying subscribers, and has rarely exceeded seven or eight hundred. Since the institution of the second series, and alteration of the times of issue, (now six times yearly, in place of the quarterly mode) it has increased somewhat in its circulation, but we understand that the increased cost of the new issue leaves the pecuniary result scarcely, if at all, better than of old.

It has been far from paying a reasonable editorial compensation; it has often paid nothing, and never did much more than pay its bills.

The large number of engravings, and the extra labor in printers' composition, cause it to be an expensive work, while its patronage is limited. In the first series there are nearly three hundred copperplates, and over ten times that number of wood cuts.

But the increasing love of science in this country, the systematic efforts made for its advancement, and the general prosperity, will not long permit this invaluable Journal to feel itself hampered by the want of means. The first yearnings of a love for science and philosophy should manifest itself by a subscription to Silliman's Journal, and those who have reached the greatest heights of science should feel themselves as much bound to subscribe for the Journal of Science, as to do anything else of a scientific character. There is no one way in which science may be as much promoted as in enlarging the usefulness of Silliman's Journal. To that great object every devotee of science should devote his energies.

We have already referred to two of the names of the editorial corps of the Journal of Science, but we should do great injustice to our feelings of grateful admiration, if we were to omit all reference to the third name—that of James D. Dana. He is, in many respects, the most profound thinker and the most admirable writer we have ever followed in scientific investigations. His inductive

power is so remarkable, that he is almost as bold in his inductions, as Leibnitz was in his speculations. As a geological essayist, we think he has no equal; at any rate, we have seen nothing on geology that is to be compared with the remarkable series of papers he has published in the Journal of Science.

The high character of Mr. Dana pointed him out to the government as the Geologist of the United States Exploring Expedition, and never was any public trust more completely fulfilled. There is not a people in the world, —not even France, with all her scientific glories challenging the admiration of the world—nor England, with all the fullness of her scientific fame—that would not feel proud of the works of Dana, connected with the Exploring Expedition.

The pages of the Journal of Science often feel the impress of Mr. Dana's genius, and of his clear and cogent style. His style, as a writer, is peculiar. Each governing word in his argument, his facts, and his inductions is as clear as crystal.

We urge upon our readers to subscribe for Silliman's Journal. Under the editorial supervision of the elder Silliman, it attained its position as one of the foremost scientific journals of the world, and under the management of its present editorial corps, we think it has no rival anywhere. Practitioners of medicine can do themselves no harm by a diligent study of the sciences elaborated in Silliman's Journal, but, on the contrary, they may greatly enlarge their usefulness in their profession.

T. R. Nelson, bookseller, is the agent for this work in Louisville, but the mail is the best communication for country subscribers, direct from the home office.

ART. VI.—*Braithwaite's Retrospect of Practical Medicine and Surgery.* Part 20th.

The Half-Yearly Abstract of the Medical Sciences: Being a practical and analytical digest of the contents of the principal British and continental medical works, published during the preceding six months.—Edited by W. H. RANKING, M. D., Cantab., &c. Republished by Lindsay & Blakiston.

These periodicals still continue their half-yearly visits to the medical profession, and they are among the most useful of their class. They present a faithful record of the progress of the various departments of practical medicine, and are of great value to the practitioner; and in order that our readers may enjoy some of the advantages connected with these practical details, we shall endeavor to make an abstract of some of the most important points in Braithwaite's Retrospect.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Typhus Fever.—In cases which last for a lengthened period, in which the pulse indicates the want of stimulants, and where delirious restlessness was present, Dr. Jones Lamprey, of Meath county, Ireland, recommends the use of port wine. The antimonial treatment, recommended by Dr. Graves, was found useful in composing the nervous disorder. Dr. Lamprey says: "Where the petechia were of a very dark color, or threatening to run into a putrid condition, I have found the exhibition of yeast, in combination with camphor and nitric ether, of great service in staying the septic process, besides acting as a powerful stimulant. I cannot speak too highly of the stimulating and antiseptic properties of this mixture. I have seen it remove the dark, livid hue of the skin in this form of fever in a few hours. The following is the formula I have used:—

"R. Yeast, ℥x., Camphor, ℥ss., nitric ether, ℥iv. Mix. An ounce to be taken every hour, or every second or third hour."

[A good deal of experience in the use of this remedy, in the last fifteen years, enables us to speak highly of its merits.—*Ed. W. J. M. & S.*]

Treatment of the Diarrhea and Dysentery of Fever.—Dr. Hudson speaks highly of turpentine, in doses of six

or eight minims, given in emulsion, in the treatment of this affection. He furnishes corroborative testimony of its value.

Employment of Manganese in Anemic and other affections. By M. Hannon.—Manganese and iron are almost constantly found united in the same minerals, and can be separated with difficulty. Again, iron is not always efficacious in chlorosis, and fails in curing anemia arising from cancers, from tubercles, from prolonged and abundant suppuration, &c. In these cases, it cannot be the iron that is deficient in the blood, but some other ingredient; and it is probable that iron is united to manganese in the blood; and that cases of anemia, unsuccessfully treated by iron, might be cured by manganese. M. Hannon first tried the effects of this agent on himself. He took at first a grain of the carbonate of manganese daily, increasing the dose to four grains by the end of the first week, and to eight grains by the end of the second. At the end of a fortnight, he experienced symptoms of a plethora; the appetite increased, the pulse became stronger, and the color of the interior of the eyelids was heightened. He then administered manganese to some anemic patients; some of them experienced nausea for two or three days, after which the medicine was tolerated. In a short time, its beneficial effects became manifest in the increase of color, in the fuller and more frequent pulse, in the energetic movements and general improvement of the functions.

The presence of manganese in the blood was discovered by M. Millon, who presented a memoir on the subject to the Academie des Sciences of Paris. His observations have been confirmed by M. Hannon.

[Several illustrative cases are given. The first mentioned is one of extreme chlorosis, in which the patient was sent into country air, and took iron for some time, without benefit. We are told that]

The patient was then directed to take one of the following pills daily before breakfast, and another before dinner: Extract of cinchona, carbonate of manganese, of each a drachm. Mix and divide into four grain pills. Af-

ter she had used these pills for a fortnight, the cheeks and conjunctiva regained their color, and the swelling of the feet disappeared. The following pills were then ordered. Sulphate of manganese, carbonate of soda, of each a drachm; fresh charcoal, honey, of each a sufficient quantity to make a mass, to be divided into four-grain pills. A fortnight after the employment of this medicine, the bellows-sound had disappeared; the pulsations of the heart were strong and loud; and an energetic impulse was felt on applying the hand. There was no syncope; and the appetite had returned. The dose of the pills was increased; and a month after, menstruation occurred, and the patient became plump, and able to bear much exertion. She digested and slept well—in a word, was cured.

[Another case is that of a young lady affected with phthisis:]

Iron, with opium was prescribed; but it increased the cough, and brought on obstinate constipation. Syrup of the phosphate of manganese was then given, with cod-liver oil; the latter being added rather to prevent the contact of air with the manganese, than from any expectation of its producing good effects. The constipation ceased; and the cough became more bearable, and ceased in a fortnight. The patient then began to recover embonpoint. A month after the knuckles assumed a very remarkable brick-red color, which has continued up to the present time—a period of nearly a year and a half.—This patient took three gros (216 grains) of phosphete of manganese, in doses of three grains daily.

Madame R. was affected with cancer of the uterus.—She complained of remitted pain in the hypogastric region, and suffered much while at stool. In the evening, she was troubled with severe lancinating pains, which often continued through the night. She was excessively weak, and of a yellow hue. She was troubled with palpitation, and a bruit was heard in the carotid. The feet frequently swelled. Syrup of the iodide of manganese was given, with syrup of horseradish, for several months. The pains did not leave her, but the anemic appearance completely disappeared. To calm the pains, opium, with extract of hemlock, was prescribed; and the patient became apparently cured.

Mademoiselle M., aged 14, of a scrofulous constitution, had glandular enlargements in the neck, ulceration of the transparent cornea of the left eye, and caries of the first phalangeal bone of the index finger of the right hand. Being the daughter of a peasant, she had lived exclusively on vegetable food; but was ordered to take meat, and to drink beer. Syrup of the iodide of manganese was given in doses of a spoonful two or three times a day. Under the influence of this, and her improved diet, she became less lean; soon after, the cornea regained its transparency, having been washed with a lotion containing gr. ss. of nitrate of silver to an ounce of distilled water. The suppuration of the carious bone ceased, and the finger was cured.

M. G. B., aged 38, had been treated with mercury for some years for constitutional syphilis. The bones were sound; the skin was affected with all kinds of eruptions; the tongue had long been the seat of an obstinate tumor; and there were syphilitic opthalmia and iritis. Fumigation and iodide of potassium were persevered in for several months, but without effect. Iodide of manganese was then given, with syrup of sarsaparilla; and in a month the patient was completely healed. He was directed to continue the use of the manganese; and, as he has not since applied for relief, it is probable that he has had no relapse.

These cases have been selected from a number of similar ones, and show the efficacy of the new remedy proposed. Manganese has in all cases produced a more rapid effect than iron in cases of simple anemia. In the forms of anemia cited, all the cases had resisted iron, and all yielded to manganese. The other cases are respectively of phthisis, cancer, scrofula, and syphilis;—all inducing almost irremediable cachexia, and all rapidly alleviated by manganese. The effects of the manganese, as observed in one case, (phthisis) are remarkable. Iron seldom produces a similar result; if it improves the state of the blood, it increases the cough; so much so, that many practitioners abstain from its use in phthisical cases. In all the scrofulous cases the iodide of manganese, by its salutary and rapid influence, was proved superior to the iodide of potassium. The persistence of the cures obtained by manganese, in comparison with those produced

by iron, is very remarkable; no cases of relapse have been observed by M. Hannon. The quantity required to be taken, in order to produce the desired result, is far from being so great as that of iron.—*London Journal of Medicine, Sep.* 1849, *p.* 871.

Treatment of Nevus by a Solution of Iodine. By Dr. J. O. Bulteel, Plymouth.

[Dr. Bulteel has used with the most satisfactory result a solution of iodine ℈j. in sp. vin. rect. ℥ss. He says:]

The preparation was applied freely once every day, not exciting the slightest constitutional derangement, and the disease every two or three days scaling itself, if I may use the expression, and thus disappearing *gradatim* till nothing more could be seen but two little spots of the size of a pin's head. The application at once arrests the growth of the nevus, and nothing but a regular daily application is needed for its final removal.—*Med. Gazette, Aug.* 24, 1849, *p.* 319.

On the Extraction of Foreign Bodies from the Esophagus. By Professor Dieffenbach.—Foreign bodies observe in their transit certain *stations* at which they halt; thus, in the pharynx behind the thyroid and crycoid cartilages, in the beginning of the gullet, or at its lower end, close to the diaphragm or cardia. They seldom stop at the middle of the gullet. If very large, they may cause suffocation—thus a large piece of meat, a hard boiled egg, a pear, a chestnut, have each proved fatal. Guattani witnessed the most frightful death ensue from a chestnut; the part of the gullet at which it stuck was gangrenous. Spiritus saw the same result follow the swallowing of a five franc piece, which perforated the gullet above the cardiac orifice. Needles, inadvertently swallowed, pierce sometimes the gullet or stomach, advance by the aid of suppuration or otherwise towards the surface, and either escape spontaneously or through incision. Lyson observed a case where three needles that went in at the mouth

came out at the shoulder; I have known one issue at the arm.

The procedure must be modified according to the nature of the substance. None but a bungler would attempt to disgorge a piece of meat sticking at the cardiac opening, or urge on a fragment of glass from the gullet into the stomach. External pressure will suffice for potatoes or plums when stuck in the throat.

For the withdrawal of needles, fish bones, and the like, there is no better implement than a large goose or swan quill feather, with the barbed portion ruffled and imbued with oil. The patient sits with his head leaning upon the breast of an assistant, while the surgeon lowers the tongue, then introduces the feather, with its concave side downwards into the throat, turns it rapidly round, and draws it out. The popular practice of swallowing a crust of bread is sometimes availing, but may also increase the peril when arrested above the bone. A sudden slap on the back is by no means a bad plan when the substance is large and obtuse. It is preferable to that of setting the patient on his head, as was done in the instance of Mr. Brunel to promote the expulsion of the half-sovereign piece.

The principal instruments employed for the present purpose are of the description of forceps. Dupuytren advises, as a preliminary step, the introduction of a gum elastic tube, surmounted with a silver ball, in order to ascertain the position of the foreign body. This, however, is superfluous, and will tend, moreover, to augment irritation. Cooper recommends the forceps of Weiss. The so-called leaden hammer of earlier writers consisted of a lead ball attached to a string, which was let down the throat and pulled up again.

Mesnier's lead hammer was of an olive shape: Petit's was equipped with a wire instead of a string. Petit used besides a metal noose fastened to a whalebone stem; Fabricus Hildanus a many-holed silver tube provided below with a sponge. The double ring of Graefe attached to the end of a rod of whalebone with a steel spring, is very convenient for taking pieces of money out of the throat. The customary instrument, termed repoussoir, or probang, namely, a bit of sponge, as big as a walnut, stuck to the end of a whalebone, is generally useful, ei-

ther for entangling fish bones and the like, or propeling large round substances. My own procedure is as follows: if the body be small and sharp, I employ the oil feather above described. An oiled wax taper, passed down to the cardiac orifice, has proved serviceable; for, as soon as withdrawn, the body has been rejected. If the body be large, as a portion of flesh meat adherent to a frrgment of bone, I use a lithotrite with an imperforate scoop, and rather straight. The instrument is introduced with the blades closed, until it arrives at its destination, when these are to be separated sufficieutly to grasp the substance, and after a few gentle turns, withdrawn.

When there is impending suffocation from the presence of the very large bodies impacted in the throat, Habicot enjoins tracheotomy before resorting to opening the esophagus, I have never been compelled to this extreme measure. The most difficult thing to deal with are sets of false teeth when swallowed. I once relieved an old lady in this predicament by means of my fingers. On several occasions I have removed, with curved polypus forceps from three to four teeth attached to a gold plate, and which got accidentally all into the throat; once, by the aid of an emetic, as a last resort, a set of four teeth very deeply located.

In all these operations, the patient is to be in a sitting posture; the head properly supported; the mouth rinsed with tepid water; tepid water, mixed with white of egg, taken as a drink, and the instrument smeared with white of egg rather than with oil.—*Med. Times, July* 28, 1849, *p.* 78.

On Treatment of Fissures of the Anus. By W. J. Anderson, Esq., London.

[The ordinary mode of treating this disease is by section of the sphincter ani. Mr. Anderson recommends this operation to be performed in a manner different from that which is usually adopted. He says:]

The operation adopted by this great surgeon, (Boyer,) and which is now generally performed, consisted in introducing the finger into the rectum, and upon it a probe-pointed bistoury, with which he cut through, "at a sin-

gle stroke, the intestinal membrane, the sphincter, cellular tissue, and tegument;" thus producing a good-sized open wound. Now every surgeon must be aware that it is perfectly possible for this to be followed by a considerable amount of inflammation, and that if suppuration does occur in the loose cellular tissue around the rectum, it is an exceedingly awkward affair. This danger may be almost entirely avoided, and the operation much modified by the following plan, which I learned from the late Professor Blandin. The instrument employed for this operation consists of a sharp-pointed straight blade, with a flat sliding guard upon one side of it. This guard is rounded at the extremity, oval externally, and flat upon the surface lying on the blade.

It is compressed against the side of the knife by means of a spring, and retained in its position by a slightly projecting pin, sliding in a groove upon the blade. The whole or a portion of the guard can be retracted within the handle by a button attached to it for that purpose. The forefinger of the left hand is introduced into the rectum, and a small opening is made at the verge of the anus with the point of the knife. The guard is then protruded beyond the point, and the instrument carefully introduced through the wound into the sub-mucous cellular tissue between the mucous membrane and the sphincter ani. The cutting edge is then turned towards the muscle, the guard retracted, and the muscle cut through as the blade is withdrawn. If any doubt remains as to whether the muscle is completely divided or not, the instrument, guarded as before, may be re-introduced and a second cut made in a smaller manner exactly upon the first. But if Boyer could cut through all the tissues, in his operation, at one stroke, surely we may do it also, especially when we have not the intestinal membrane and tegument to deal with. The small external wound should then be closed, and the bowels kept in a lax state by means of the confection of senna, given in sufficient quantities to render the motions moist; but purging should be carefully avoided. It may be as well to apply some unctuous substance locally, to prevent any irritation from the feculent matter.

We have here, at any rate, an operation far less repulsive and formidable to the feelings of the patient, and

certainly, in a practical point of view, attended with much less risk. The relief is as instantaneous as in the other operation; but no large open wound is left in the intestine; defectation can, therefore, be performed without the same amount of irritation; and the cure is materially expedited, inasmuch as the parts are not kept in a state of disunion longer than is necessary for its completion. Of course the same preliminary treatment, with regard to unloading the bowels, is necessary in this as in the other operation; and those excellent remarks by Sir Benjamin Brodie, concerning the impropriety of cutting directly forwards in the female, or directly backwards in either sex, are equally applicable to both methods of operating.

Lancet, Sept. 15, 1849, *p.* 291.

Salivation Treated by Nitrate of Silver. By —— Kirby, Esq.—In a late number of the Medical Press, M. Bouchacourt is reported to have used successfully a solution of nitrate of silver in a case of profuse salivation, in which various gargles and sinapisms, &c., have been employed without benefit. I have had much experience of this remedy, having used it for many years in cases of sudden and inordinate salivation. It rapidly arrests stomatitis and the attendant profuse discharge, provided it be applied of proper strength and with sufficient frequency. Of course the teeth become deeply discolored, but these stains being removable by means which shall be noticed, temporary disfigurement is not to be urged as an objection to a free and general employment of so controlling a remedy.

A Case Selected as an Example.—Mr. G., under treatment for bronchitis, with engorgement of the liver and heart, was unexpectedly seized with violent salivation and distracting pain of his gums, which were unusually swollen. I ordered the following solution:

℞. Nitratis argenti drachmam. Aque distillate unciam. Sol.

This solution was freely applied three or four times daily, with a hair pencil, by my friend Mr. Collins. The heat and smarting which ensued upon each application

quickly subsided, and was followed by a period of much ease. In three days the patient's mouth was well.

Until now he had no idea of the condition of his teeth, of whose shape and color he was always rather vain. His annoyance and dissatisfaction at the "ruinous" change of these adornments was displayed in terms of no equivocal import; his chagrin, however, was soon allayed as he saw them brighten under the use of a solution of hydriodate of potash, in the proportion of two drams to an ounce of distilled water; which solution was frequently applied by a brush. He now left for the country, and continued this treatment. When I saw him on his next return to town, his teeth had nearly resumed their former attractive lustre; I say nearly, for although darkness had wholly disappeared, yet a slightly yellowish tinge was perhaps observable.

Mr. Collins, who has been engaged in some experiments as to the means by which stains from the nitrate of silver may be most effectually removed, has favored me with the following report: "I applied a solution of nitrate of silver, in the proportion of a drachm to an ounce of distilled water, to two extracted teeth for some days, until a deep blackness was produced. I treated one by a solution of the cyanide of potash, in the proportion of one part of the salt to two of distilled water; the other I treated by a solution of hydriodate of potash, in the proportion of four grains to ten minims of distilled water; and the hyposulphite of potash in the proportion of one part of the salt to two of distilled water. The latter plan succeeded very well, but the former produced a much better effect, more thoroughly removing all traces of discoloration, after being patiently and carefully applied by means of a soft brush.—*Dublin Med. Press, August* 1, 1849, *p.* 70.

[Mr. Collins, in another number of the Dublin Medical Press gives the following further information on the subject:]

If a solution of cyanide of potassium be added to a solution of nitrate of silver, a whitish precipitate of cyanide of silver immediately occurs. This precipitate is perfectly soluble in an excess of the cyanide of potassium, forming a colorless solution. Black stains produced by nitrate of silver on the skin, nails, teeth, and on linen, &c.,

brushed over with a solution of the cyanide of potassium (eight or ten grains of the salt to ℥j of distilled water) are similarly acted on. They will disappear after one or two applications if at all superficial; if even deeply seated in the textures they may require several. The cyanide of potassium is a cheap salt, and may be had at the Apothecaries' Hall, or from any respectable druggist. The solution should be made fresh, as it is liable to spontaneous decomposition.—*Dublin Medical Press, August* 8, 1849, *p.* 83.

On the Treatment of External Hemorrhoids by Potassa Fusa. By Dr. F. C. Jones, Surgeon to the South London Dispensary.

[Dr. Jones states that within twelve months he has treated between sixty and seventy cases of external piles with undeviating success by the means which he here describes. He says:]

Observing that in all cases of spontaneous cure of external hemorrhoids, they primarily slough, I was led to think that if nature obliterates the vessels by sloughing it is feasible that artificial means might induce the same remedial action.

In turning over in my mind the action of various remedies likely to produce this condition, it struck me forcibly that potassa fusa was precisely the agent required. I forthwith determined to apply it to the first case that came under my care, and the results were, that upon the first application the patient complained of a burning sensation which passed off in the course of half an hour; at the end of four days the parts were consideraly diminished in size, and by brushing a piece of lint quickly over the part I removed the superficial slough, and again applied the potassa fusa; the same treatment was followed at the interval of four days, at the end of which time they had entirely disappeared, leaving only a slight sore, which healed in a week.—*Lancet, Sept.* 8, 1849, *p.* 277.

THE WESTERN JOURNAL.

THIRD SERIES.—VOL. V.—No. III.

LOUISVILLE, MARCH 1, 1850.

THE LOUISVILLE MEDICAL SCHOOL.

The medical department of Louisville University has just terminated the most successful, useful and brilliant session of its career. We promised great and important results from the changes made last summer and fall in the Faculty, and we believe that all our predictions have been more than fulfilled. In the department of clinical teaching, the success has been all that could have been asked for. This important branch of teaching, which is so shamefully conducted, or neglected, generally, in the West and South, has received vitality at the hands of Professor Bartlett, and we feel fully justified in saying that no medical class ever received a more valuable course of clinical instruction than the recent class in the medical school of Louisville. Professor Bartlett is eminently adapted to the business of clinical teaching; he is thoroughly acquainted with the pathology of disease; he is proficient in all the enlightened methods of investigation known to physicians; he is a master of diagnosis, and possesses remarkable descriptive powers. His manner is more impressive than that of any clinical teacher we have ever known, and dull, indeed must that student be, who can listen to Prof. Bartlett's clinical teaching without profiting largely by it.

The Hospital, under its present arrangement, is admirably fitted for

clinical instruction. The joint committee of the legislature thus speaks of the institution:

"A large number of invalids, male and female, tenanted and occupied the different apartments of the building, and all the offices of "good Samaritanism" seemed to be actively employed by those entrusted with the care and management of the concerns of the hospital.

"Cleanliness and comfort were everywhere visible, and every want of the sick was apparently supplied.

"The rooms of the building are large, comfortable, well lighted, and susceptible of the most excellent ventilation.

"We think too much praise cannot be bestowed upon those whose efforts have so potently contributed to smooth the pillow and soften the bed of the afflicted."

These facts hold out inducements to patients to go into the hospital, and while they are greatly benefitted by the care bestowed upon them, the material for clinical instruction is ample and varied.

Professor Silliman's success has justified the highest anticipations of his warmest admirers. His course of lectures has been received with great favor by the class, and its members are enthusiastic in their expressions of approbation. There is no difference of opinion, among the students, as to the excellence of Professor Silliman's lectures; they all speak in warm terms of the fullness, clearness and impressiveness of his lectures, and of his rare skill as a manipulater and experimenter.

Our friend, Professor Rogers, too, has fully justified the expectations of his friends. Their expectations were very high, but he has fully come up to them. We have never known a young lecturer who seized success with a firmer grasp.

We congratulate the lovers of medical science upon the auspicious circumstances of the Louisville medical school. No institution in the country has stronger claims upon those who wish to obtain a thorough knowledge of medical science in all its departments.

COLLEGES IN THE UNITED STATES.

There are, in the United States, one hundred and twenty colleges, of which eighty-one have been chartered since 1819. Many of them, in fact, have only a nominal existence. The oldest are, Harvard College, in Massachusetts, founded in 1636; William and Mary, in Virginia, in 1692; Yale College, New Haven, Conn., in 1700; Princeton, in New

Jersey, in 1746, and the University of Pennsylvania, in 1755. The several religious persuasions are very variously represented, as respects the numbers of the literary institutions attached to their several interests. Thus, seventy-one, (or considerably more than half,) are representatives of the Presbyterian and Congregational denominations, or are undesignated, and this number embraces by far the largest and most celebrated of American literary institutions—e. g., Yale, Harvard, Princeton, &c. The Baptists, Romanists, and Methodists have each thirteen, and the Episcopalians ten colleges. The literary property of these several institutions, is as various as their other points of comparison. It appears that the aggregate libraries of the American colleges is 751,425 volumes. The several libraries at Harvard contain nearly 85,000 volumes which is the largest collection of books in America. The next largest collection of books is found at Yale, where the number is nearly 50,000. Below these we find Brown University, Bowdoin, and Georgetown, having respectively 27,520, 25,520, and 23,250 volumes each.—Harvard College has 6,203 graduates, of whom 1,628 have been clergymen. Yale has had 5,856 graduates, of whom 1,510 have been clergymen. Princeton has the next largest number of graduates, 3,031, of whom 577 have been clergymen. If the medical graduates of Pennsylvania University are included in her list of names, the aggregate graduated at that institution rises to 5,142, of which, however, 4,952 are medical. It is difficult to form a just estimate of the corps of officers engaged in the several institutions, since in the Roman Catholic colleges (?) the teachers in the primary departments are included, as well as the scolars in the primary departments. Bearing this in mind, we find only five American colleges, in which over twenty instructors are employed, viz: Mt. St. Mary's, Baltimore, (Catholic primary and collegiate) twenty-four teachers. Yale, twenty-one. St. Charles, Louisiana, (Catholic), twenty-one. Harvard, twenty. St. Mary's, twenty.

The colleges are very unequally distributed over the union. The older States, with a dense population, numerous schools, and academies, and minor means of instruction have, as a general rule, fewest colleges; but those they have, are far more numerously attended, and better endowed, than the more frequent but often feeble institutions in the South and West. Thus, Maine has two colleges; New Hampshire, one; Massachusetts, three; Vermont, three; Rhode Island, one; Connecticut, three; New York, eight; New Jersey, three; Pennsylvania, ten; Delaware,

one; Maryland, five; District of Columbia, two; Virginia, ten; North Carolina, three; South Carolina, three; Georgia, five; Alabama, four; Mississippi, one; Louisiana, four; Tennessee, eight; Kentucky, eight; Ohio, twelve; Indiana, six; Illinois, four; Missouri, six; Michigan, two; Wisconsin, one.

In all this long list, the only literary institution whose aggregate number of students in the *Academical* department, (not preparatory) exceeds three hundred students, is Yale College, in Connecticut. This institution has 306 students this year, and last year (1848-49) had 385 academical students. Seven other institutions exceed two hundred students, and twenty-nine have between one and two hundred. The annual expense of tuition, at these institutions, ranges from $24 to $75—a very moderate charge, certainly, at the highest, for the time and services of so many competent instructors.

Medical Schools—At the last dates there were thirty-five medical schools in the United States, viz: in Pennsylvania, five; in New York, four; in Maryland, two; in Massachusetts, two; in Vermont, two; in Virginia, two; in Kentucky, two; in Ohio, three; and in Missouri, four. In the other States, only one exists, or none, in each State. The oldest medical school in the United States is the old medical department of the University of Pennsylvania, which was established in 1765. Next, we have the medical school of Harvard College, founded in 1782, and that of Dartmouth, in New Hampshire, established in 1797.

The oldest institution in the West, for medical instruction, is at Lexington, founded in 1818, and having now 1,351 graduates. The numbers of graduates at Pennsylvania University is 4,952; at Jefferson Medical College, 1,596; at Baltimore, 909; at the College of Physicians and Surgeons, New York, 852; at Yale, 850; at Louisville, 688; at the University of New York, 597; New Hampshire, 758; Maine medical school, 596, &c. The institutions having the largest classes at present, are the University of Pennsylvania, 508; Jefferson Medical College, 480; Medical Faculty at the New York University, 421; Louisville, 376; Cleveland, 258; the College of Physicians and Surgeons, New York, 219. The number of Professors in the several schools ranges from three to nine, viz: one has three, (University of Virginia); three have five; thirteen have six; thirteen have seven; three have eight; two have nine, (the St. Louis colleges.)

The growth of the medical department of the Louisville University has been remarkably regular and progressive. We annex the statistics in a tabular form, viz:

Years.	*Students.*	*Graduates.*	*Years.*	*Students.*	*Graduates.*
1837-38	80	24	1844-45	286	71
1838-39	120	27	1845-46	345	73
1839-40	204	38	1846-47	348	75
1840-41	208	48	1847-48	406	94
1841-42	262	53	1848-49	332	81
1842-43	189	37	1849-50	376	
1843-44	242	47			

AMERICAN MEDICAL ASSOCIATION.

Our readers will bear in mind that the American Medical Association is to meet, this year, at Cincinnati, and that the day of meeting is the first Tuesday in May. All the schools and medical societies in the West, it is to be hoped, will appoint delegates, and that there will be a *full* attendance. The meetings of the Association heretofore, have been full of interest, and there is no reason to doubt that the approaching one will be equally so. The following gentlemen will attend as delegates from the several institutions in this city, to wit: Professors Miller and Gross, from the University of Louisville; B. I. Raphael, M. D., and David W. Yandell, M. D., from the Louisville Marine Hospital; and Theodore S. Bell, M. D., and Robert J. Breckinridge, M. D., from the Louisville Medical Society. It will be seen from the following notice of the Committee of Arrangements, that our brethren in the Queen City are making ample preparations for receiving the Association:

In consequence of the delay, up to the present time, in the distribution of the Transactions of the second meeting of the Association, held at Boston in the month of May, 1849, the *Standing Committee of Arrangements*, appointed at that time, deem it expedient to give public notice, through the medical periodical press, that the next meeting will be held in Cincinnati, on Thursday, the 7th of May, ensuing; and, at the same time, they wish to make known to the physicians, who reside in portions of the United States from which few or no delegates have yet been sent, the terms of membership. This they will do, by copying a part of the second article of the Constitution:

"*The Delegates* shall receive the appointment from permanently organized medical societies, medical colleges, hospitals, lunatic asylums,

and other permanently organized medical institutions of good standing, in the United States. Each delegate shall hold his appointment for one year, and until another is appointed to succeed him, and shall participate in all the business and affairs of the association.

"Each local society shall have the privilege of sending to the association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half this number. The faculty of every regularly constituted medical college or chartered school of medicine, shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more, shall have the privilege of sending two delegates; and every other permanently organized medical institution of good standing, shall have the privilege of sending one delegate.

"*The Members by Invitation* shall consist of practitioners of reputable standing, from sections of the United States not otherwise represented at the meeting. They shall receive their appointment by invitation of the meeting after an introduction from any of the members present, or from any of the absent permanent members. They shall hold their connection with the association until the close of the annual session at which they are received; and shall be entitled to participate in all its affairs, as in the case of delegates.

"*The Permanent Members* shall consist of all those who have served in the capacity of delegates, and such other members as may receive the appointment by unanimous vote.

"Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the association, so long as they shall continue to conform to the regulations, but without the right of voting; and when not in attendance, they shall be authorized to grant letters of introduction to reputable practitioners of medicine residing in their vicinity, who may wish to participate in the business of the meetings, as provided for members by invitation."

The committee desire, still farther, to give notice that it is their duty to receive and present the reports of any of the standing committees, whose members cannot attend the meeting; and all communications on scientific subjects, which gentlemen, not members of the Association, may desire to lay before it.

It is, likewise, their duty to examine the credentials of delegates and register their names, which it is desirable should, as far as possible, be done before the meeting of the Association, for which purpose the committee will meet on the preceding day.

In conclusion, the committee indulge the hope, that this first meeting in the interior of the continent, will be well attended by its physicians, and all who cultivate the sciences auxiliary to medicine; that no society, college or hospital will remain unrepresented; and that many distinguished physicians, not appointed as delegates, will attend and become members by a vote of the Association.

DANIEL DRAKE, M. D., Chairman.

D. P. STRADER, M. D., Secretary.

Cincinnati, Jan. 31, 1850.

THE CAUSE OF CHOLERA.

All who are attentive observers of "the form and pressure of the times," have been struck with the facility with which the clergy cut the Gordian knots of medical philosophy. When physicians are puzzled, either about the cause or treatment of a disease, the clergy benevolently step in to clear up the mystery. The following statement, made by the London correspondent of the New York Tribune, is no fancy sketch, and it is illustrative of the remarks we have made on the medical tendencies of the clergy. The Tribune says:

"The cause of cholera not having been determined by physical examination, it is attempted to account for it upon spiritual reasons. Rev. Dr. McNeile thinks it is a judgment on England for favoring 'Popery'; Rev. Mr. Toye, of Gateshead, that it is to deter people from marrying deceased wives' sisters; Rev. Mr. Gutch, of Liecester, attributes it to Parliamentary electors voting for Dissenters and Jews, instead of Church of England men; while others attribute it to the omission of 'Dei Gratia,' from the new florin. The new Post Office Sunday arrangement is another assigned cause. An old Jew, being in an out-of-the-way ale-house, treated himself to some ham and eggs; but just as he was about to raise the forbidden morsel to his mouth, a clap of thunder startled him: he dropped his fork, saying 'Mein Gott! all dish fuss, chust becaush old Moshesh is eating a leedle pit of pacon!' We are constantly looking to the stars for the causes of things which lie at our feet. More than one educated man has told me in England that he believed Animal Magnetism to be a Satanic influence. A belief in present witchcraft, as a special compact with the old gentleman who wears the horns and flourishes the tail, was avowed to me by a classical scholar and extensive reader."

TILDEN & CO.'S ALCOHOLIC EXTRACTS.

We have received, from the manufacturers of these extracts, several samples of the medicines, and from the trial we have made of them, we have no hesitation in pronouncing them superior to anything of the kind ever made in this country, Prof. Clark, one of the most reliable of men, in a letter to the editor of the New York Journal of Medicine, speaks in laudatory terms of the manufactory of Tilden & Co., after having visited the establishment. He says:

"I have lately visited the manufactory of these extracts. After inspecting the whole process, and examining a large number of prepara-

tions, I became so fully persuaded that these gentlemen have fallen upon the best plan of concentrating and preserving the active principles, especially of the narcotic vegetables, that I have voluntarily offered to them any assistance that I can render in introducing their medicines to the notice of the profession; being persuaded that these extracts must possess the efficiency and the uniformity of strength so necessary to the successful use of this class of remedies, and, I may add, so long sought for in vain.

"Should your conviction of the value of these preparations correspond with my own, after you have examined them and tried them in practice, perhaps you may think it due alike to the profession and to the gentlemen who are improving the instruments by which we work, to call the attention of your readers to the improvements which I cannot doubt this process secures."

We take great pleasure in commending Tilden & Co.'s extracts to the favor of the profession.

PROFESSOR BARTLETT'S ESSAY ON EDEMATOUS LARYNGITIS.

This admirable essay cannot fail to arrest the attention of the reader, and it will well repay the most diligent study. It is clear, forcible, full and complete in its various details, and richly deserves the attention of practitioners.

The proprietors of this Journal have published this essay in pamphlet form, for the benefit of non-subscribers. The pamphlet may be obtained at the office of Messrs. Prentice & Weissinger.

OBITUARY.

The numerous friends of this Journal will be pained to hear of the death of George W. Weissinger, Esq., associate editor and proprietor of the Louisville Daily Journal, and oue of the proprietors of the Western Journal of Medicine and Surgery. He was an earnest and devoted friend of medical science, and contributed largely to the success of the medical school of Louisville. He was one of the Trustees of the Louisville University.

Mr. Weissinger was a gentleman of liberal education and of enlarged understanding. He looked with a keen and observant eye upon all the great movements of the day, and, with a hopeful heart, and a powerful pen, he gave his aid to what he considered real progress. Science and literature have lost in him an ardent and useful friend.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

APRIL, 1850.

ART. I.—*Two Lectures on Water.* Delivered to his Class, in Lebanon, Tennessee, by F. H. Gordon, M. D.

During our course, reference has been frequently made to water as a remedial agent, and it is so important an agent in the healing art, as to induce me to call your special attention to its consideration. Its use is coeval with medicine, and its modes of application numerous. Much more of its virtues is known among practitioners, than you will find in books—even enough, were it collected, to put to shame that humbug, based on one truth, called hydropathy. Your time will, therefere, be well spent in studying this important remedy. Water, as a hygienic drink, and as a solvent of other remedies, you find well discussed in your text books. Pharmacy could not do without it; in keeping the proximate elements of the blood in a state of solution, it is of paramount importance; but its

other properties and uses require a more careful consideration from us, because they are more important to the practitioner.

As an *internal* remedy, its properties *vary according to its temperature.* At all temperatures which can be tolerated by the stomach, it increases the pulmonary, cutaneous, and renal secretions. When taken into the stomach, it soon finds its way into the circulation, through the radicals of the gastric veins, and is eliminated by the skin, kidneys and lungs. But if water be swallowed hot, say at ninety-eight degrees Fahrenheit, or upward, it stimulates and accelerates the circulation, and acts as a powerful diaphoretic. The perspiration will be in proportion to the elevation of temperature, and the amount swallowed in a given time. Cold (thirty-two to sixty degrees Fahrenheit) water swallowed, acts as a diuretic and antiphlogistic or sedative to an inflamed stomach. But if drunk tepid, (sixty to eighty degrees Fahrenheit) it is emetic. Thus you may cause a patient to urinate, sweat, or vomit, or to cease vomiting, according to the temperature of the water he drinks. A small amount of very warm or very cold water will generally relieve nausea; but if drunk largely, then it is emetic, diuretic, or diaphoretic, according to its temperature, as just stated.—Bearing these facts in mind, you will be able to explain why a thousand and one remedies have popularity for these virtues. I allude not alone to the opinions of the populace, but to those of the profession also.

Many remedies of high repute, would doubtless cease to be valued, were they administered without water. In this respect, our materia medica would be much impoverished. The physician orders a decoction of some foreign or indigenous plant; the urine flows freely, and he therefore sees with his own eyes that it is an excellent diuretic. He thus knows from experience that the books are correct. But let him order his remedy without wa-

ter, and direct his patient to abstain from all drinks; then experience will, in regard to most of the reputable diuretics, teach him differently. Similar remarks are true of a very long list of diaphoretics. Numerous teas, infusions and decoctions, owe their reputation exclusively to the warm water swallowed during the administration of these supposed sudorifics. Let these supposed remedies be taken without water, and you will find a large majority of them incapable of exciting perspiration. Very warm water, freely swallowed, so powerfully promotes perspiration, that, in most cases, it needs no medication.

As an *external* remedy, water is still more valuable.—And the fact that the two extremes of temperature, denominated cold and warm, give it different virtues, makes it necessary to treat of its application, first, as cold water, and second, as warm water.

Cold water has been variously applied to the surface of the body, as by immersion, dash, stream, sponging, or wet linen and bladders of ice. Its effects vary with those modes of application in intensity, but not in kind.

1st. The first and most obvious effect of cold water applied to the surface, is reduction of its temperature, by the abstraction of caloric from the point of application. As a consequence, contraction of the part, and sluggish circulation soon result.

2d. When the vital phenomena of the part have been depressed for a time, reaction takes place; that is, the vital forces are roused, and all living phenomena increase.

3d. *Tonicity* is imparted directly to the point of application, and indirectly to the whole system.

But these effects vary greatly, according to the force of the application; and the force varies with the different modes of using it. Of course, the practitioner must let the object to be accomplished determine what mode of application should be adopted. When there is local inflammation to be reduced, by diminishing the flow of

blood to the suffering point, the most appropriate modes of applying cold water are by wet linens, the sponge, bladders of ice, and the stream. The application must be moderate, gradual and long continued; but when the object is to impart tonicity or vigorous reaction, the water must be applied with speed and force enough to shock and rouse the latent energies; and here the dash and shower-bath are appropriate.

To apply these principles in practice; suppose you have a case of cerebritis, pneumonitis, or gastritis. Now, if you plunge the patient in cold water, or dash it on him, it is evident that you will cause violent reaction in an organ already excited too much, and thus aggravate the inflammation. But if you pour a gentle stream on the head, or apply bladders of ice to it, or sponge the chest or epigastrium, and keep up this practice, so as to reduce the augmented heat for a long time, it is plain, that you reduce the inflammation of the part, and lessen the tendency to reaction, in proportion to the time of the application.

On the contrary, suppose you have an emaciated and debilitated patient, suffering of some *functional* disease of the prima via, liver, spleen, bladder, or uterus; and suppose you protractedly sponge or pour cold water over the diseased organ. Your patient, for want of vital power, will ultimately collapse and die; or run into a chill, and, after a slow reaction, have high fever, with aggravation of the local lesion. But if you plunge the patient, or dash the coldest water forcibly on any part of the body, and let the skin be speedily wiped dry and wrapped up warmly, the dormant energies are roused, equilibrium of the circulation is produced, with vigorous reaction, and tonicity is imparted to the whole system.

Here may be a seeming inconsistency. We apply cold water slowly and protractedly, to subdue acute inflammation; but if the lesion be sub-acute, and especially if it be merely functional, then the dash is the remedy. The

following physiological facts, will manifest the reason of the procedure.

1. The more vitality there is in the patient, or in the diseased part, the more speedy and vigorous will be the reaction from the use of cold applications.

2. The colder the water, and the more sudden and forcible the application, the more prompt and vigorous will be the reaction. According to these two principles, the promptitude and vigor of reaction, are in direct proportion to the amount of vitality in the patient, and the celerity with which heat is abstracted by the water.

3. A shock rouses every organ of the body, and gives increased action to the circulation and nervous fluid.

4. If there be organic lesion, or violent inflammation, a shock does violence to the diseased part, by forcing it to over action.

5. If by cold water, the vital movements be reduced below the natural standard, the reaction will exalt the vital phenomena as much above, as they had been depressed below the natural level.

It appears from these principles, that in cases of chronic disease with prostration, the slow application of cold water, would not be tolerated by the system of the patient; because the blood and vital fluid are both impoverished or diminished, and are therefore, incapable of keeping up the equilibrium of circulation, calorification and vitalization, in opposition to the continued abstraction of heat by cold water. On the contrary, in acute inflammation, where the vital fluid and blood are abundant, there is but little danger of depressing the vital movements too low, if prudence be observed. Some depression in the diseased organ is the desideratum, and there is a continual strong tendency to reaction. And where there is serious organic disease, cold water is inadmissible.

From the foregoing considerations, the application of cold water in its different modes, to the various cases,

may be easily determined. The cases requiring the cold stream, sponging, or bladders of ice water are: fever with general heat of surface, arachnitis, gastritis, enteritis, strangulated hernia, epistaxis, and gonorrhea, &c. And the cold dash is applicable to uterine hemorrhage with prostration, narcotism, syncope, catarrh, dyspepsia, amenorrhea, chronic diarrhea, chlorosis, and all chronic diseases with general debility, provided there be no serious organic lesion.

Your attention will now be called to the external application of *warm water*. The modes of its application to the surface of the body are immersion, vapor bath, poultices, fomentation, and a stream. Warm water is still the same agent, and its *effects are the same in kind*, whether applied by one, or any of these modes. We have seen, that when swallowed it is a stimulant, emetic, diaphoretic, and in common with cold water, it is diuretic; but when applied to the surface it displays other properties.

1. It softens and relaxes the skin and muscles.

2. It promotes cutaneous perspiration and general absorption.

3. It acts as a sedative to the nervous system, and thus quiets or subdues irritation.

4. It diminishes arterial action and equalizes the circulation, and thus removes local congestion and inflammation.

Warm water is still the same agent, having these effects, whatever may be its mode of application. But its potency is regulated by three circumstances, viz.: the *length of time*, the *constancy* and *force* of its application. The longer the application is continued, the greater its force, and the more constant, the more powerful will be its effects. The value of each mode is easily determined by these conditions.

The vapor bath, was at one time highly estimated in this country. It is conducted by generating steam in

some vessel, and conducting it around the patient under the bed clothes. This mode of applying warm water has now but few advocates, owing no doubt to one peculiarity, that is, by surrounding the surface with an atmosphere highly charged with moisture, it impedes, if it does not arrest all cutaneous transpiration. The interferance with this important function diminishes its value, if it does not hinder the other legitimate effects of water.

Fomentation is a mode of applying warm water, by dipping flannal cloths in it, and applying them to the surface. It is an old remedy, and is much used at this day. But it is the least efficient of all the modes; because there is but little force in the application, and the cloths cool so rapidly as to require frequent changing. Yet from its convenience, it answers a valuable purpose in many instances, where a more powerful effect is not demanded.

The poultice is a much more potent antiphlogistic, and in subduing local inflammation it is deservedly popular. Yet there are frequent failures in securing the good effects of this remedy, because of the injudicious manner of its application. The poultice, to do great service, must be *large, light, and frequently changed.* It must be large, because a small poultice cools too speedily; it must be light, because otherwise its weight would oppress the patient; and it must be frequently changed, to keep up a temperature as nearly uniform as possible. To accomplish all of these objects, wheat bran is the best material for a poultice, and should be managed in the following manner: Suppose you have a case of peritonitis, put ten quarts of wheat bran in an iron pot; gradually add water, and stir till the whole mass is *merely moist* or damp throughout. Now heat it and stir occasionally till it is quite hot. Put half of this in a bag not less than eighteen inches square, (a pillow case is a suitable bag for this purpose,) spread the bran out, and apply the

poultice, as hot as the patient can bear it, to the surface of the abdomen. At the end of twenty minutes have the remainder of the bran ready in another bag, and apply it the instant the former poultice is removed. Return the cool bran of the former poultice to the pot, to be ready to be reapplied at the end of twenty minutes more; and thus continue to change the poultices every twenty minutes, so as to keep up a temperature as nearly uniform as possible. Poulticing in this way for four or five hours will do more in subduing inflammation than a little and badly managed one could in a week. In fact, a little poultice is the mere semblance of a remedy; but when all of the conditions here named are observed, the poultice is powerful. I have named wheat bran as the best material; but poultices are made of various substances, many of which are supposed to possess some peculiar virtues, apart from the water they contain. But I suppose that the remedial agency of all or nearly all poultices is due to the water alone, which they contain. The tansy, hot ashes, cedar leaves, yarrow, corn mush, and wheat bran are only the means of absorbing warm water, and holding it in contact with the surface. And we frequently see poultices medicated with oak ooze, vinegar, and other means, under the belief that these means have some agency in reducing the inflammation. Such medications of course do no injury, and I never object to them, but gratify the friends of the patient by allowing any such medication, provided the poultices are made large and hot, and are changed frequently; for my reliance is on the water in the poultice.

Bathing, by immersing the patient partially or generally in warm water, is a remedy of great power in equalising the circulation, and promoting perspiration. But when the object is to subdue local inflammation, this remedy is not appropriate it acts so powerfully upon the nervous system as not to be tolerated by most patients, more than

from fifteen to thirty minutes. This is too short a time for any material reduction of the inflammatory action. The powerful constitutional impression of warm bathing is owing to the great extent of surface acted on by the water.

The stream is the most valuable form of applying warm water *for the cure of local inflammation.* I have been familiar with it for years. It had been used by surgeons to relax the muscles in reducing luxations; but I am not aware of its having been employed for the reduction of local inflammation before I introduced it into the practice. For this latter purpose I am acquainted with no remedy which can equal it in value. I do not wish to overrate it or to appear to exaggerate its powers, for this would prevent a proper estimate from being placed upon it. Yet, to those who have not tried the remedy, the whole truth will look like exaggeration. Cups, leeches, blisters, and the lancet, do not equal it. The stream is a mode of applying warm water which complies with all of the conditions requisite to make it efficacious. It is *more constant*, may be *longer continued*, and applied with *more force* than any other application of water. The stream may be conducted almost without variation of temperature or force for hours, and, falling *only upon the suffering point*, it does not prostrate the patient like the bath, and hence may be continued long enough to greatly subdue the local inflammation before there is much depression of the vital powers. The *force* of the stream is an item of peculiar importance, because it is incomparably greater than that of any other mode of using warm water. It is a well known fact, that *fluids in motion* manifest their peculiar powers in a much higher degree than when at rest. The sultry air of a summer's day, which almost melts us by its quiescence, may, when put in motion, make hail, and chill the body. Electricity, which gently pervades our bodies at all times and stimulates all of the vital

movements without misrule, if disturbed in its equilibrium and transmitted through the organs, with its incalculable velocity, will produce instant disorganization and death. Caloric, which pervades all of the tissues, and without which the vital functions could not be performed for one moment, does no injury while latent or in gentle motion; but when a large amount passes in or out of any point of the surface in a short time, destruction is the instant result. In like manner, water at rest in contact with the body will abstract or impart caloric according to its temperature, in so gradual a manner as to cause no very striking results; but when a swift current of water strikes the surface, its effects are manifestly in proportion to its velocity. Hence the stream of warm water as far surpasses in virtue the vapor bath and fomenting cloths, as the gentle breeze which wafts a feather is transcended by the tornado which uproots the sturdy oak.

But this, like all other remedies, may lose more than half of its virtues by being badly applied; it is, therefore, important that some special directions be given for its employment. Your object is to cause a *constant stream to fall with force upon the suffering point.* You may accomplish all of these objects by pouring with two pitchers, alternately, so as never to stop the stream longer than is necessary to exchange an empty pitcher for a full one. Or two coffee-pots or tea-pots will answer the same purpose. But the syphon is far the best instrument. A leaden tube from two and a half to three feet long, or a bent tin tube, or two joints of cane mitred together, secured with twine and made air-tight, will answer the purpose. The outer leg of the syphon must be from two to four inches longer than the one placed in the water. The diameter of the instrument must be from one-eighth to three-eighths of an inch, according as the patient is prostrated or vigorous. To understand the application of this instrument, particularly on the trunk, suppose you

wish to apply the stream in a case of peritonitis. Take everything from the bedstead down to the cords; fold the bed-clothes and place them on the cords so as to make two beds of them, of equal height, with an interval of two inches between them, about where the umbilicus of the patient will be when he is placed upon them. Now place the patient, supine, upon the beds; with his umbilicus over the interval and a pillow under his head. Two blankets must cover the patient above and below the umbilicus, so as to leave a space of four inches between them. Pass two silk handkerchiefs around the body of the patient, one just above and the other just below the umbilicus, with their ends hanging through the cords to conduct the water. Have the clothes of the patient well pulled up, so that they may not get wet. A tub is placed under the bed to catch the water. A plank rests on the head and foot board, on which a bucket of warm water is placed. One end of the syphon is put into the bucket and made steady by a weight tied to it, and the other end presents over the umbilicus of the patient. By applying the mouth to the outer end and sucking, the stream begins, and ought to be adjusted to make it fall upon the most tender point. It should fall five or six inches, from the end of the syphon to the skin of the patient, or as far as it can without making a spray. The water should be tempered in a separate vessel and poured in the one which feeds the syphon, so as to keep it full and cause the stream to be uniform in temperature and force. The stream should fall constantly in the same place, because its effects will thus be greater than if moved frequently. The length of time consumed in using the stream must vary from one to five hours, according to the strength of the patient. Mustard plasters on the hands and feet will enable him to stand it much longer than without them. The rule is to continue the stream till the patient's pulse becomes small and frequent; and the higher the tempera-

ture of the water the longer it can be tolerated without faltering of the pulse. What should be the temperature of the water? At the beginning it should be about ninety degrees, Fahrenheit, and gradually increased till it reddens the skin slightly; this will be between one hundred and one hundred and fifteen degrees, according to the excitability of the patient. It is usual for patients to enjoy the stream finely for the first hour or two, but afterwards they become restless and insist on moving. They must be carefully instructed never to move themselves, for their clothes and bed would get wet. By rolling up a towel and placing it under one shoulder and another under the hip of the same side, the patient will be made to rest for a while, and when he again becomes tired place the towels under the opposite hip and shoulder. In this way you may make him contented till the bathing is ended, and all means should be employed for this purpose, for the effects of the stream increases almost in fourfold proportion with the time. In fact the last hour appears to accumulate as much good as the three preceding ones.

The first effect of the stream is on the point where it falls, subduing the inflammation for a small space around. The reduction gradually extends to more remote parts, as may be proven by gentle pressure being gradually tolerated progressively outward from where the stream falls. And, in the case of peritonitis before us, the legs can be completely extended without pain.

The second effect is upon the muscular, circulatory, and nervous systems. General relaxation ensues; the pulse loses its hardness, becomes full and elastic, and, ultimately, is small and frequent, but retains its softness.—At first, the patient is soothed; all pains cease and he falls to sleep, but afterwards awakes and becomes restless and weary of his position. These constitutional effects are so gradual, that you may almost, and sometimes entirely, subdue the local inflammation, before the patient

becomes so much depressed as to require the discontinuance of the remedy. This is the excellency of the stream —that it acts with power enough *upon the point of disease* to subdue the inflammation in part or entirely, with but temporary depression of the general energies. The general febrile symptoms moderate and disappear while the stream flows, with as much certainty as can be expected from the lancet, and yet without ultimate loss of strength. It thus often does away the necessity of bleeding, and may be used in cases of great prostration, where no one would think of using the lancet. To a considerable extent, the warm stream supercedes the painful practice of blistering, relieving the disease without it; and where it does not subdue the local lesion entirely, it always diminishes it greatly, if continued long enough, and being on the decline, the blister plaster may be at once applied, with full prospect of good effects. And to speak in general terms, in all cases of local inflammation, the patient gets well sooner by the aid of the stream, than he could possibly without it, and suffers incomparably less during his illness. Unlike bleeding, purging, blistering, and all other powerful means of subduing inflammation, the warm stream may be repeated as often as may be needed. After all that has been said, need it be urged that we have no remedy so potent in reducing local inflammation? Let it be well tried, in a variety of cases, and you will be astonished at its effects. To see so pleasant a remedy relieve the most intense agony, remove all soreness, subdue the fever, and restore the pulse almost to its normal characteristics, in a few hours, almost passes belief. And though you will not be fortunate enough to see this picture universally, yet you may often be gratified with the sight.

You ask, in what cases is the stream applicable? I reply, *in all cases where there is local inflammation,* no matter what may be the name of the disease, whether acute

or chronic, the stream will do good, and the nearer it can be made to fall on the point of the most intense suffering the better. It is true, that its effect will be more striking in acute disease, but it will be serviceable in chronic also. In mild or slight cases, I do not always take the trouble of applying the stream, but whenever I find severe suffering, or the life of the patient in jeopardy, I do not hesitate to direct the stream upon the suffering point.

I have watched this remedy in its extensive application, for many years, and could adduce from memory and my notes, a very long list of cases, tending to show its value; but must be content to bring forward comparatively few of them taken promiscuously from the mass in my possession, to which I ask your patient attention.

1. *Luxation of the Shoulder.*—Eli Harris, of this county, æt. 40, had his right shoulder dislocated, forward under the clavicle, on the 12th September last. A few hours afterwards, a neighboring practitioner saw him, and for four or five hours employed the strength of several strong men, in fruitless efforts to reduce it. On the 13th, about twenty-six hours after the accident, I found the patient discouraged, and the parts very sore and swollen from the previous efforts at reduction. I ordered a stream of warm water, about ninety-six degrees Fahrenheit, to be poured upon the inflamed joint for two hours, and with the aid of one man reduced the luxation with but little pain to the patient.

2. *Chronic Hepatitis with Gastrodynia.*—Mrs. Springs, of this county, was in a state of extreme prostration, in 1846. For four years, continued medical aid had done nothing towards a cure, and had afforded but occasional relief of her extreme suffering. There was general tenderness of the whole abdomen; the liver was much enlarged, extending below the umbilicus, and quite hard.—I directed the bowels to be kept regular, with pills of aloes, rhubarb and soap; diet, animal food exclusively,

and a stream of warm water to be poured four hours daily over the region of the liver. On the second day, the liver was found soft for two inches in diameter where the stream had fallen. The stream was made to fall on a new place every day, and continued to soften the liver where it fell, till at the end of three weeks, the whole organ was reduced to its normal state, and the gastrodynia had disappeared. No mercury was used to act on the liver, and the recovery of the patient, in some four months, was due almost exclusively to the stream.

3. *Ptyalism from Mercury.*—In 1846, Miss Miner, of Smith county, was severely salivated. Could not rest; she had several ulcers; the pain, heat, and swelling were very great. The warm stream was directed on the cheek for two hours daily, and a mouth wash of borate sodæ used. Each application of the stream subdued the fever, and gave entire comfort. The mouth was well in a few days.

4. *Gastritis Acute.*—I was called to George Clope, of Wilson county, September 18, 1844. Had autumnal fever. Tongue red and dry; pulse small, hard, and one hundred per minute; frequent vomiting, and great tenderness of the epigastrium. Bled twenty ounces, with some relief. Gave minute doses of calomel and Dover's powder, and directed wheat bran poultices to the whole abdomen.

20th. Patient decidedly worse. Poured the warm stream upon the epigastrium for four hours, and directed two grains quinine every two hours.

22d. So much improved that further treatment was unnecessary, and the patient was up in a few days.

5. *Enteritis Acute.*—John Davidson, of Smith county, in 1846, had miasmatic fever, with enteritis, involving the peritoneum. Could not bear the slightest pressure. The stream of warm water, directed upon the umbilicus four hours, and repeated the day after, relieved all distressing symptoms, and a blister completed the cure.

6. *Purulent Ophthalmia.*—In 1845 the Egyptian ophthalmia was endemic in this region. I. Kilzer had violent pain in both eyes, balls swollen, conjunctiva looked like clots of blood, complete intolerance of light. Bled him copiously, gave calomel and directed the warm stream to be poured alternately upon the eyes till both should be comfortable. The next day no improvement, suspected the stream had been badly conducted, and poured it myself one hour upon each eye. Left patient comfortable. The family repeated the stream twice more on the two following days, and he was well in a week.

7. *Cynanche Maligna.*—Sept., 1849, Tabitha Moore, of Smith county, æt. three years, had cynanche, suffocating respiration, tonsils swollen, and of a dark purple color, pulse one hundred and fifty and small. At 12 M., applied a solution of nit. silver, fifteen grs. to ℥j. of water, to the tonsils and fauces, and gave tart. emetic freely. No nausea and no improvement. Gave 10 gr. blue mass, and reddened the throat with turpentine liniment. Still no relief. Gave 6 grs. calomel with 1 gr. tart. emetic, and 2 gr. ipecac; no nausea; and the child grew worse in all respects. About 9 P. M., had Dr. Thompson called in consultation, and told the family the child would die within fifteen hours, but determined to use the warm stream. It was poured on the throat two hours. The child breathed much better; broken doses of ipecac., were then repeated frequently, and nausea and vomiting were easily produced, followed by rapid improvement. Ipecac discontinued in three hours after its commencement; the child slept till daylight, and was out of danger.

8. *Pneumonia.*—I. Bradford, of Smith county, aged forty-five, was attacked with pneumonia 2d of April, 1846. Saw him on the 5th: dyspnea, constant dry cough, pulse one hundred and ten; two thirds of left lung impervious to air, and flat sound on percussion. Directed tartar emetic, repeated so as not to excite vomiting, pa-

tient to be bled, *ad deliquium*, at 2 P. M., and the stream to be poured to the left of sternum during alternate four hours, till my return next day. April 6, twenty-four hours after first visit. Patient better, expectorates some rusty sputa, coughs less, breathes better, pulse ninety-five, some crepitation in left lung. Has taken tartar regularly, and the stream has been poured twelve hours out of the twenty-four; was not bled, because the neighborhood bleeder thought he had not fever enough. Directions same as yesterday, except that the stream is to be poured eight hours out of the next twenty four. April 7.—Patient looks bright, much improved, full expectoration of brick-dust sputa; coughs but little and without pain, skin moist, pulse eighty-seven, sleeps well, left lung not so dull, some crepitus throughout the inflamed lung. The tartar and bathing had been used as directed, but bleeding had been again omitted for the same reasons as before. A blister was ordered over left lung, tartar water continued one day longer and then left off. Patient recovered in a few days.

9. *Nephritis.*—Miss L. Tyree, æt. eighteen, was attacked October 9, 1844. Saw her on the 11th. Had constant fever, headache, some pain in left kidney, extending into the pelvis, frequent scanty micturition, bowels constipated. The abdominal aorta pulsated inordinately down to the emulgents, thence the strong pulsation was traced out to the left kidney, which itself pulsated violently in unison with the heart. The stream was poured four hours upon the region of the kidney, which relieved the pain and subdued the fever. Ten grs. calomel, and 5 grs. Dover's powder were given, and mild diuretics directed thrice a day. On the 16th, patient was well. This patient had two other attacks of the same sort during 1845, which were relieved by the same treatment.

10. *Puerperal Peritonitis.*—Mrs. Dowty, of Smith coun-

ty, aged forty, a delicate woman, was delivered of a child 1st May, 1847. Saw her the 5th, extremely ill, pulse one hundred and forty, small and corded, thirst, nausea, jactitation, delirium; abdomen swollen, quite tender and painful, legs flexed, lochia suspended, diarrhea. Directed 10 grs. calomel, and 1½ grs. morphia to be divided into three portions, one to be given every three hours. Poured the stream on the hypogastrium, for four hours, while mustard was used on the hands and feet, and directed the same to be repeated the next day; wheat bran poultice over the abdomen in the interval. 7th.—Patient much relieved, has had two consistent bilious dejections, abdominal tenderness nearly removed, mind clear, lochia returned, pulse one hundred and ten. Directed 3 grs. quinine every three hours, and ½ gr. morphia at bedtime. 9th.—Improving, quinine continued, poultice of wheat bran to the abdomen. 11th.—Sits up a little, appetite good, directed aloetic pills at bed time, to be checked with Dover's powder and acetate of lead, if the purgation should be too free. 13th.—Cured.

11. *Cystitis.*—Mrs. M., of Smith county, October, 1839, had acute inflammation of the urinary bladder, frequent micturition with burning pain in the urethra, and spasm of the bladder, whenever urine was discharged; tenderness of the hypogastrium, pulse frequent and small, profuse perspiration from pain. The lancet and hip bathing were used to some advantage, but the symptoms returned with violence. The warm stream was poured just above the pubis for five hours, with perfect relief of all pain. Mild diuretics and spare diet completed the cure without further suffering of consequence.

12. *Paraphymosis.*—A son of P. Smith, of Wilson county, æt. five years, was seen October 9th, 1846. The part of the prepuce forming the ligature completely buried, the glans swollen to one and a quarter inches in diameter and dark colored; micturition impossible. The

warm stream poured on the swollen glans, for one and a half hours, made reduction easy, by compression between the palms of the hands.

13. *Orchitis.*—Ned, a negro man of J. Bradford's, æt. forty-five, had orchitis, July 1st, 1844, which yielded to ordinary treatment. August 20th, visited his wife five miles distant. Returned home with swollen and painful testicle. Was neglected, because of his imprudence, till 25th, when I found him in great torture, pulse one hundred and forty and irregular, clammy perspiration, extremities cold, the pain in the testicle extended to the loins. Directed 12 grs. calomel and 6 grs. Dover's powder; the warm stream to be poured on the testicle for six hours. After the use of the stream the patient slept soundly. 26th.—Comfortable; testicle a little softened, pulse one hundred, calomel had operated well. Directed strong iodine ointment to be freely rubbed daily on the testicle, and a suspensory bandage, recumbency, bowels to be kept regular with aloetic pills. Patient recovered in three weeks, but the epedidymis suppurated and was lanced.

14. *Croup.*—A daughter of J. Mitchell, æt. two years, was attacked 1st April, 1846, in the evening, got better before day; was taken very ill the evening of the 2d. Saw her at 9 P. M. Croaking cough, great distress in breathing. Gave tart. emetic and ipecac in broken doses, repeated often. No nausea. Reddened the throat with turpentine liniment, and immersed the child for half an hour up to the chin in warm water; gave 10 grs. calomel and 5 grs. ipecac. The child grew worse. After trying these, and other means, in vain for the whole night, the case appeared to be hopeless. About 9 A. M., on the 3d, directed the stream of warm water on the larynx for three hours, mean time gave ipecac every ten or fifteen minutes; the child vomited several times while un-

der the influence of the stream, and was easily kept sick for several hours afterwards. Recovery complete on the 4th.

15. *Inflamed Mammary Gland.*—1843, Mrs. A. Garret, of Smith county, æt. forty-one, had great swelling, pain and heat of the right breast. Directed the stream of warm water to be poured for three hours on the tumor, and spts. mindereri to be taken, at intervals, for five hours so as to keep up constant nausea. The symptoms abated, and the patient recovered without further suffering.

16. *Torticollis.*—In 1846, I. Moore, of Smith county, slept near a window, from which a cold current of air blew on him. I found his head drawn down to the right shoulder; pain severe, when moved. The stream was directed on the right sterno-mastoid muscle for five hours. Patient could move his head normally, and was cured.

17. *Chronic Enteritis, with Induration.*—July 30, 1846, saw E. Atwood, of Smith county, æt. about 30. In the forepart of June, while overheated in the harvest field, had indulged freely in drinking very cold water. Was soon attacked with gastro-enteritis. Was confined to bed, under the regular treatment of a neighboring practitioner up to the 30th of July, when he became my patient. I found his tongue very red; bowels constipated; whole abdomen hard, and tender on pressure; whenever he was raised up, he complained of a heavy dragging weight of the bowels, as if they would tear, and the patient became sick and faint; he cannot lie on either side. Directed half a teaspoonful of powdered cubebs, nutmeg or ginger at each meal, carbonate and sulphate of magnesia, in equal portions, to be taken four times daily, in such quantities as would move the bowels gently; the warm stream to be poured four hours daily, near the umbilicus, where the bowels felt the hardest. In ten days the bowels became somewhat soft at this point, and blister plasters, of the size of a dollar, were made to mi-

grate around the umbilicus, so as continually to draw a fresh blister. Meantime the stream was directed upon other parts of the abdomen, every third or fourth day, for several weeks. Patient to take sarsaparilla bitters. He slowly recovered, and was well about the 30th of November.

18. *Simple Metritis.*—This disease was endemic here, in the year 1844. I treated more than fifty cases; they were generally attended with uterine hemorrhage. The warm stream above the pubis, and warm water thrown up the vagina with a large syringe or syphon, were much used, and always with benefit, and sometimes prompt relief.

19. *Hypertrophy of the Uterus, with Procidentia.*—Mrs. O., of this county, æt. 41, had suffered from dysmenorrhea for several years, sometimes it amounted to menorrhagia, or even flooding. She had been under a judicious practitioner for two or three years, with occasional benefit. In 1846, I found her with globus, palpitations, cold feet, intermitting pulse, leucorrhea and amenorrhea; the womb hard to the touch and painful, about three inches in its transverse diameter, and resting with its mouth upon the perineum, causing dragging weight in the pelvis, pain in the loins, and numbness in the lower limbs. Directed aloetic pills to regulate the bowels, quinine every morning, a teaspoonful of pulverized cubebs before each meal; warm water to be *abundantly* thrown up the vagina daily, with a large self-operating syringe. In two months the patient was better. Directed the stream to be conducted up to the womb, with a syphon, for two hours every third day. This remedy was used but twice, and with so much benefit, that I saw my patient, soon after, at a camp meeting, five miles from home. The syphon was irregularly used for a month afterwards. Menstruation became regular and natural, all symptoms disappeared and health was restored.

20. *Vaginitis.*—In 1846, a negro girl, belonging to John Hause, of Smith county, had autumnal fever.—When she had been recovering for several days, it was ascertained that the entire mucous surface of the vagina and labia were discharging pus freely, and that, from incontinence of urine, the inner sides of the thighs were excoriated. The suffering was severe, constitutional disturbance considerable, and the patient could not sleep.—Directed the warm stream to be conducted into the vagina, with a syphon, for two hours daily, the thighs and external genitals to be washed and oiled frequently. Patient slept several hours after the first use of the syphon, and was well in four days.

21. *Dysmenorrhea.*—Mrs. B., æt. 25, the mother of one child, six years old, when I saw her in 1844. She had suffered painful menstruation for four years and had been under treatment for three years. Every six or eight weeks she was supposed to suffer from an abortion, followed by profuse hemorrhage. I attended her in one of these supposed abortions. A transparent shut sack was discharged, about two inches in diameter, and filled with a transparent serous fluid. The pains were severe, and the subsequent hemorrhage prostrating. Directed an eight-ounce self-operating syringe to be injected twenty times full of warm water up to the womb every day.—Tarter emetic ointment rubbed on the spine, and the usual constitutional remedies. In about three months she began to menstruate naturally, and was delivered of a healthy child in 1845.

22. *Leucorrhea.*—This disease can not resist a free use of warm water, thrown up the vagina daily. But the common little cylindrical female syringe is useless. Its use may cleanse the surface, but this is all it can do. It is difficult to introduce into the vagina, and does but little good when introduced. This instrument ought to be abandoned by the profession, and the self-operating sy-

ringe or the syphon substituted. It takes much water to cure inflammation. I have often known patients to fumble for weeks with the clumsy instrument I have mentioned, irritating the inflamed vagina as much as the process benefitted it; and then I have known the little instrument laid aside and the large self-operating syringe substituted, when the discharge would cease in a short time.

24. *Amenorrhea.*—I have often known the menstrual flux to follow immediately after an abundant injection of tepid water into the vagina. But usually weeks or months are required to produce the effect. Yet you ought to bear in mind, that this suspension of the secretion is owing to some grade of inflammation in the uterus, and the more water you direct to the womb, the sooner you will remove the cause and restore the function. And let it be here impressed, that *in all cases the water thrown into the vagina must be merely tepid,* (about seventy degrees Fahrenheit); for if as high as blood heat or higher, it will cause a distressing vertigo.

25. *Crural Phlebitis, (Phlegmasia Dolens.)*—12th October, 1846, I saw Maria, æt. 38, a servant of D. Palmer, of Smith county. Left lower extremity considerably swollen, as well as the labium of that side, very tender to the touch, particularly in the course of the veins; she could not bear the weight of the bed clothes, or extend the limb. Gave twelve grains blue mass, directed the warm stream to be poured three hours upon the femoral vein, just below the crural arch, to be repeated daily till relieved; and the limb to be bandaged just after each use of the stream. The first application gave striking relief.

13th. Patient much improved; limb not so tender, nor so tense; can be extended. The stream was used as before, and the bandage immediately applied from the toes to the hip. From this moment, the patient ceased to suffer, and needed no further treatment, except to reapply the bandage, so as to follow up the shrinking of the limb.

In a week from the beginning of the treatment, the patient was walking about cured. During the same year, four other cases of this affection were treated with the stream of water, with results equally striking and prompt. This treatment was suggested by the pathology of the disease, as demonstrated by Robert Lee; and if the treatment is used early, it appears to be competent to cure the disease. How it would succeed in the advanced stage of the disease, I have had no opportunity to ascertain.

The foregoing cases, treated with the warm stream of water, must be sufficient to show its value clearly. Were I to enumerate all the cases which I have treated in this way, the number would amount to many hundreds. But you are not to infer that I have cured all the patients I have treated with this remedy, or that I have been always as fortunate as in the cases here reported. I have brought these forward to show the value of the stream of warm water, and not to claim for it infallibility. Like all other remedies, it must fail occasionally; but it has done more in my hands to subdue local inflammation than any other remedy, and I trust it will do as much in your practice. Some of you have seen it used in a few cases, and thus your own observation has taught you to estimate it; but when you have seen more of it, you will then be fully satisfied that I have not insisted too strongly upon its value.

ART. II.—*Case of Malformation of the Uterus, with Fatal Post-partum Hemorrhage; Morbid Adhesion, and partial Osseous Degeneration of the Placenta.* By R. C. HEWETT, M. D., of Louisville, Kentucky.

About four o'clock in the morning of Thursday, the 28th of February last, I was called to go about two miles out, to attend Mrs. T., in labor with her first child. I

arrived at her residence about 5 o'clock, A. M., and found a rather short, very fleshy but otherwise symmetrically proportioned lady, with an entirely healthy appearance and somewhat florid complexion. The mother of Mrs. T., a most sensible and estimable lady, was present and informed me, that this, her only daughter, and three sons, were all that survived of her fourteen children; that her first labor occupied three days; that she had had twins several times, but that this daughter was not a twin.

Mrs. T. was nineteen years of age, had been married three years, and was now pregnant for the first time—up to the time of marriage, and for some months after, her health was uninterruptedly good, and the catamenia continued regular in all respects, until the period of pregnancy. About eighteen months previous to the latter event, she became the subject of prolapsus uteri, and suffered greatly with pains in the back and left side. These pains continued to harass her up to the time of delivery. Until pregnancy occurred she weighed only one hundred and twenty-seven pounds, and at the time I saw her, in labor, her weight, she informed me, was one hundred and eighty pounds. By calculation, made at the time, I found that two hundred and eighty days had elapsed since her last catamenial day. At the first onset of pain, about two hours before my arrival, the membraneous sac had given way, and the liquor amnii had escaped. On examination I found the os uteri dilated to about the size of a dollar, and as I then concluded, the head presenting, but subsequent explorations disclosed a breech presentation, with the sacrum regarding the left acetabulum; it must have been the sacrum of the fetus, presenting at first, with which my finger came in contact. The bowels and bladder had been sufficiently evacuated, the pelvis had ample capacity, and every thing seemed favorable for a much less tedious labor than it proved to be. During the forenoon, slight cutting pains continued

to recur at very irregular intervals, and in the afternoon they almost entirely ceased. At 10 o'clock, P. M., the pains became somewhat more active but were very transient; the os tincæ was not more dilated than in the morning; the patient suffered severely with constant pain in the back and left side, particularly if she attempted to lie down; she complained of headache; her face was flushed and the pulse was full and strong. About sixteen ounces of blood were drawn from the arm, with marked abatement of all the unpleasant symptoms; but still she could not lie down without excessive pain in the back and side, and the night was passed without sleep. On Friday morning, the patient was in good spirits, with the skin moist, circulation quiet, and the os uteri slightly more dilated. The relatives began to manifest great anxiety and apprehension on account of the unexpected delay in the case, and I expressed a willingness to have the opinion of any medical friend in relation to it. Dr. Knight was accordingly sent for, and, after careful examination, he concurred with me in opinion, that everything seemed favorable, and that nothing more could be done, nor should be attempted, to expedite the process, beyond the administration of opiates to procure sleep, and an enema, if necessary, to relieve the bowels. During this day and the succeeding night, the pains were very feeble, with intervals sometimes of several hours; and although laudanum and afterwards morphine were given, the patient reached Saturday morning without more sleep than transient dozing, and had continued to sit in a large chair. Tea and toast had been taken several times. She was sufficiently cheerful; showed no signs of exhaustion; the dilitation had made sensible progress, and the pains continued as before. About noon on Saturday, an enema of castor oil and laudanum was administered, which acted sufficiently. During the afternoon the uterus acted much more efficiently, and with more regularity, but the pains were still

unusually short. The breech was fairly engaged in the superior strait, by 7 o'clock, being a period of sixty-four hours since the commencement of labor. Still there were no signs of unusual exhaustion. She was induced to lie down, on the left side, and as the abdominal muscles were now brought into action, rapid progress was made, so that by 8 o'clock, the presenting part was passing through the vaginal orifice. Three or four pains more expelled the body as far as the shoulders, and then the expulsive efforts seemed to cease. I directed ergot 3ss. to be immediately given; brought down the arms, and as the pulsations of the cord were very indistinct, the head was gently extracted. The child was remarkably large, perfectly formed, and irrecoverably asphyxiated. An immediate effort was made to set up respiration; and in a few moments my hand was applied to the abdomen of the mother, and the uterus, (I then supposed the whole of it,) seemed to be moderately contracted, although the tumor appeared to be longer and more pointed than I had ever noticed in any former case. The pulse was sufficiently full and firm, and not unusually accelerated. The mother of my patient was requested to place her hand upon the uterus and to follow it down with moderate pressure as it might contract. She remarked that it felt like a sugar loaf. My attention was again directed to the child, with attempts to resuscitate it, and after a few minutes I returned to the mother. Only one slight pain had occurred, and on making an examination the placenta could not be felt. Moderate traction was applied to the cord, and it became evident, from the firm sensation communicated by the cord, and by its mounting up, when relaxed, that the placenta was firmly adhering, high up in the uterus. This surprised me, as the latter seemed to be so much contracted. The pulse, also, was now more accelerated than I had ever observed in this stage. A message was immediately dispatched into the city for medical as-

sistance, to come with all possible speed. Up to this time, the mother of Mrs. T. had her hand pressed constantly upon the uterine tumor, as directed. There was no external hemorrhage to excite apprehension, and for the third time I made efforts to reanimate the child; and whilst thus engaged I heard Mrs. T. sigh and ask for a glass of water—I immediately went to the bed, placed my hand on the abdomen, and found the uterus much higher up than at the previous examination, but it still had the remarkable pointed peculiarity mentioned above; and now I was astounded by feeling another tumor, larger than the first, and below it, in the position the patient was lying, on the left side. For the moment I concluded this might be owing to some peculiar spasmodic contraction of the uterus. The pulse had become quick and weak, with hurried respiration and sighs; the face was bedewed with perspiration, and all the fearful evidences of internal hemorrhage were before me. Fifteen or twenty minutes had now elapsed since the birth of the child. Thirty grains of ergot, all I had, were directed to be given at once; my coat was instantly thrown off, and I proceeded to introduce my hand to extract the placenta, and induce contraction. On penetrating the body of the uterus, my hand encountered masses of coagulated blood, and passed up into a cavity, that at one point admitted it, with some slight difficulty, and which, beyond this, was expanded into a sac somewhat larger than my closed hand. But the placenta could not be found. On slowly withdrawing my hand this cavity contracted upon it, and I then felt the edge of a substance, presenting downwards, and a little to the right of the patient, which I at first supposed was the placenta partly detached, but soon found that this substance was incorporated with the anterior and posterior walls of the uterus. I then found the cord, and following it up, my hand passed off to the left, into another sac, in which I found a great quantity

of coagula, and the placenta firmly adhering, with the exception of about five inches of its circumference, nearest the center of the uterus. The substance I had before noticed was now ascertained to be a dense, thick septum dividing the upper part of the womb into two distinct cornua. In their then expanded condition, the fundus of each sac was distant from the inferior edge of this septum about the length of my hand, or seven inches. I commenced inserting my fingers between the placenta and uterus, and another peculiarity was disclosed, in numerous hard, rough points studding the uterine surface of the placenta. The after-birth was adhering with remarkable tenacity, and to remove it, without endangering the integrity of the uterus, required much caution. After it was separated, pressure was applied to the fundus of the placental side of the womb, whilst one of the attendants made firm counter-pressure externally, but no effort at contraction was made. The abdomen was covered with cloths dipped in cold water, and water was freely poured upon it, but the uterus remained as inert as if severed from the body. In the mean time my poor patient was becoming very weak and faint, the extremities cold, pulse feeble and fluttering, and the face perfectly blanched. Brandy and laudanum had been administered frequently and freely. They were continued, and the head was lowered as much as possible. I determined to withdraw the placenta, and some of the clotted blood. This was done as speedily as possible, and my hand was again carried into the uterus. The right side had expanded again, and my knuckles were pressed against the fundus of each cavity, alternately. External pressure and cold water were still applied, but no contraction ensued. All the usual expedients, within my reach, had now been used in vain, and I directed powerful, external pressure to be made over both sides of the uterus, so as to bring, if possible, the anterior and posterior walls in

contact, whilst I compressed the abdominal aorta, a short distance above its bifurcation, as firmly as I could with my fingers. By this expedient I hoped to gain, at least, some time. Those who have had to manage cases of flooding, in which an amiable and confiding patient, in the midst of healthy, vigorous and youthful life, may have been reduced, in a few moments, to the very verge of existence, and have witnessed a family, full of joyous anticipations, suddenly overwhelmed with the most fearful forebodings and uncontrollable anguish, may form some estimate of the awful sense of responsibility that had possession of me at this moment. And although this case was surrounded with anomalous features and difficulties, fully sufficient to make a fatal issue unfavoidable, they did not, at the time, make my mental suffering the less. An hour had passed since Mr. T. started into the city with my message, when Professor Rogers, generously sympathizing with my condition, and braving the very inclement night and perilous road, entered the room. If an angel had suddenly appeared to rescue me from drowning, the presence could not have been more acceptible. Although for some time I had held the aorta firmly compressed, and all the other appliances had been continued, my patient continued to sink, and when Dr. Rogers arrived, she lay as still and white, and almost as cold and pulseless as a statue of alabaster, and thus quietly expired. Dr. Rogers quickly introduced his hand, and at first thought the uterus was contracted, but when I requested him to direct his hand to the left, it passed high up into the placental side, which was still perfectly flaccid. The right side had probably contracted, in some degree, and into it, Dr. R.'s hand had at first penetrated. He at once pronounced it a case of malformed uterus. We made a hasty examination of the placenta, and points of ossification, extending over its uterine surface, were distinctly perceptible to the sight and touch.

To Dr. T. G. Richardson I am indebted for his valuable services in conducting the autopsy.

Autopsy—fifteen hours after death.—The body was found moderately rigid and perfectly exsanguinous. Not a drop of blood appeared, at any point, in the track of the scalpel. There was a subcutaneous layer of fat, fully two inches in thickness, covering the abdomen, and the muscles were remarkably attenuated. The uterus was partially contracted, and instead of a convex border at the fundus, presented a very marked depression. At the point of depression and for some distance downwards, the anterior wall evidently projected forwards; and to the touch, externally, a thick, firm mass was felt occupying that portion of the cavity. The whole organ, with its appendages, was carefully exsected.

The relations of the deceased, with a promptness that did great credit to their good sense and intelligence, permitted us to retain the uterus and placenta.

The uterus measures from the fundus to the os tincæ eight and a half inches; its greatest width, when lying flat on a board, is seven inches. A partial, fleshy partition extends antero-posteriorly and in a longitudinal direction in the cavity of the uterus; being attached to the middle of the fundus, and reaching downwards about two and a half inches, with a free crescentic margin. Its antero-posterior width is about two inches; its thickness, at the attached part above, half an inch, and it gradually becomes thiner to the free edge. It is not unlike the falx cerebri in shape.

When the uterus is distended with water, it appears exteriorly, in front, like the female breasts, if the nipples were removed, the division between the two sides being in appearance like that between the breasts.

In all other respects the uterus seems to be perfectly normal. The deciduous membrane lined both sides, as

patches of it are still adhering to the internal surface of the right or unoccupied side.

The placenta is peculiar, only in the points of ossification on its uterine surface, and in a somewhat oblong shape, with one end broader than the other.

These specimens were presented to Professor Cobb for the medical museum of the University of Louisville.

Remarks.—This case was probably an imperfect effort at what is called a double uterus.

From the fact, that before death, the right sac was smaller than the left—at one point scarcely admitting my hand—and from noticing that the free edge of the septum was then looking considerably to the right, I *infer*, that the fetus, as well as the placenta, occupied exclusively the left side; thus forcing the septum to the right of the mesial line with which it now corresponds. I conceive that this partition was not endowed with the same facility for growth or development and rapid contraction as the rest of the uterus. Otherwise I can see no reason why, at full term, the point of the fundus corresponding to the attachment of the septum was not as high up, at least, as any other part of the uterine walls, instead of being depressed as it was, and, with the two sides of the uterus expanded into two cornua, reaching up fully seven inches above the lower edge of the septum, as I noticed at the time.

This abnormal condition of the womb interrupted the favorable completion of parturition in several ways. In the first place, the fetus and placenta being confined to the left side, had less space for their development than in ordinary cases, and probably produced unusual distention, which may have been the cause of the ultimate fatal inertia of this side, and of the firm adhesion and partial degeneration of the placenta.

The axis of the left side being in an oblique direction

to that of the superior strait, must have made the contractions much less effective in dilating the os tincæ, and aided in producing the protracted labor. In this condition of the parts, which of course could not be anticipated, the position in which my patient was lying, on the left side, was certainly not the most favorable; as it increased the obliquity of the axis of the left side of the uterus. This position, in connection with the existing obliquity, by favoring the accumulation of blood in the left sac, probably caused, also, the hemorrhage to be internal.

The bifid state of the fundus of the womb, making two distinct sacs, completely deceived me when I first applied my hand to the abdomen, after the birth of the child; for, although I noticed a peculiarity in the shape of the uterine tumor, it seemed to be the entire organ, and its smallness was the means of misleading me, the more, as I concluded the uterus was so much contracted. From the time of the birth of the child, the left cavity, I have no doubt, was fully expanded and the hemorrhage that stealthily exhausted the life of my patient was already in progress.

The irregular, inefficient contractions that marked the case throughout, were probably owing to the septum, that acted as a band through the center of the uterus, crippling its movements, and preventing simultaneous contraction of all its parts.

Even if the placenta had not been adherent, and had, at once, been expelled, still, it appears to me, the presence of the septum would have acted somewhat like that of the placenta, in preventing sufficient contraction, and in inviting hemorrhage. As this septum was not developed in proportion with the growth of the walls of the uterus, it is fair to conclude it could not contract so readily, nor until after some considerable time would elapse.

The complete inertia of the left cavity cannot be accounted for by supposing a state of general exhaustion

arising from the protracted labor, for the countenance, state of mind and pulse of the patient, gave no indications of unusual fatigue, and the right side did contract, readily, when my hand was first carried into it. It might, perhaps, be considered as in "a state of stupor caused by sudden evacuation," after unusual distention.

The most usual effect of morbid conditions of the placenta, is imperfect development of the fetus, and its premature expulsion from the uterus. In this case, the fetus was perfectly formed and very large; was undoubtedly living a short time before birth, and the full term of gestation had been completed.

As to the cause of abnormal adhesions of the placenta, much uncertainty seems to exist. In Cazeaux's Midwifery, I find the following, which is probably the sum of all that is known on the subject. "According to most authors, they are owing to a fibrous transformation of the cellular filaments which hold the placenta and uterus together, whereby they acquire a degree of solidity sufficient to withstand the uterine forces. These adhesions have also been referred to the degenerations of the placental tissue itself, as well as to various osseous and calcareous concretions."

Various authors mention the fact of the occasional occurrence of cases of double uterus, and of several other irregularities in the formation of the female organs of generation. Dr. Churchill mentions the *uterus bicollis*, *uterus bicorporeus*, *uterus biangularis*, &c., and says: "it is remarkable that these malformations, which are owing to an arrest of development, appear to reproduce the analogous organs of lower classes of animals." "These congenital malformations are by no means very rare; Dr. Cassan collected forty-one examples, and many others have since been reported." I have not found any new cases reported for some years past.

Dr. R. Lee says, in all cases of this kind, "without a sin-

gle exception, the uterine appendages have been simple, or have consisted of one ovarium and one Fallopian tube annexed to each cornu of the uterus, and not of two ovaria and two Fallopian tubes, as the term double uterus would seem to imply."

In the Med. Chir. Rev., vol. 19, the following case is recorded: "M. Moreau (Academy of Medicine, Paris) presented a very beautiful specimen of a uterus completely divided into two equal, lateral halves; each provided with a tube and ovary; each separated from the other by a double partition, and each having distinct necks and mouths into a single vagina. The woman died after an accouchement. The fetus was a male, and had been developed in the left cavity; and, therefore, not in accordance with the whimsical idea that the right ovary furnishes the male and the left the female germs."

Dr. Robert Lee says: "In the museum of the Royal College of Surgeons, in London, there is a specimen of bifid unimpregnated uterus, and another was preserved in the collection of Mr. Brookes, in which the fundus, cervix and os uteri were all divided by a thick septum.—Similar cases have been recorded by different writers.—Messrs. Lauth and Cruveilhier have reduced all the malformations of the uterus to the four following varieties:

1. Where the uterus and vagina are separated into two cavities by a septum running in the direction of the mesial line, while the external configuration presents nothing unusual.

2. Where the fundus and body of the uterus are divided into two cornua, the cervix, os uteri, and vagina remaining in the normal state.

3. Where the uterus is bifid, as above, while the cervix and vagina are divided by a septum.

4. Where the vagina forms a single canal, with a double os uteri."

An attempt has been made to explain cases of al-

leged superfetation by supposing the existence of a double uterus; but this theory seems to be overthrown by the case, reported by Dr. Lee himself, "of impregnated double uterus, in which an organized deciduous membrane, in the form of a shut sac, lined the unimpregnated cornu, and rendered superfetation and menstruation impossible."

It might be a subject of very interesting inquiry, how far these cases of imperfect double uterus may favor the production of twins. As these malformations seem to be a reproduction of corresponding organs of the lower classes of animals, it is not altogether unreasonable to suppose that some tendency to the multiparous nature of these classes, may, in such cases, exist.

ART. III.—*A Case of Chronic Pneumonia, with Anomalous Physical Signs.—Abscess.—Death.—Autopsy.* By DAVID W. YANDELL, M. D., of Louisville, Ky., Attending Physician for the Faculty at the Louisville Marine Hospital.

Patrick Green, marine, æt. 30, an Irishman and a hard drinker, was admitted into the hospital on the 4th of September, 1849. His general health, according to his own account, had been singularly good for one of his occupation and habits. In May last, while lifting a bale of cotton on the levee in New Orleans, he was suddenly seized with a severe pain in the right side of the chest, which was soon followed by a high fever and frequent dry cough. He entered one of the New Orleans hospitals; was cupped and blistered over the seat of the pain; took medicines internally, and at the end of a week was so far relieved as to be able to resume his work. The cough, however, still continued. It appeared to him that after this attack he was particularly liable to contract cold on the slightest exposure, when the pain and fever would

return and the cough increase. His general health became impaired; his appetite was poor and capricious; he lost flesh and strength and spirits. His cough continued to grow more and more troublesome; was especially severe early in the morning, and often kept him from closing his eyes during the night.

The cough was dry, from May until the first of August, when it was followed by the expectoration of a thick, straw-colored matter. Very shortly after this, hectic fever and night sweats came on.

On the 1st of September he was exposed to cold; had a chill. This was followed by fever, pain in the right breast, and aggravation of the cough. The next morning, on getting up, the patient remarked an entire change in the character of the sputa. They were red, bloody, mucous, not very tenacious, and very abundant. Two days after this, he was received into the hospital, when the following condition of things was observed:

Expression languid and weary. Skin dry; pulse eighty eight, irritable; tongue slightly coated; bowels regular; no appetite; thirst; cough frequent, paroxysmal and painful; respiration twenty-three, short; expectoration copious, raised at each paroxysm of cough, of a very disagreeable earthy odor. The color was striking and peculiar. It was pink. The blood was intimately admixed with the other matters, save that here and there, there was a streak of muco-purulent fluid.

Physical signs.—A shade of dullness was observed on the right side, from the third rib downwards. Left side resonance and respiratory murmur normal. Respiratory murmur at the superior part of the right side normal.—After passing the third rib it becomes mingled with the mucous ronchus and occasional friction sounds. The ronchus is most distinct posteriorly, while in this region the friction sound is entirely wanting. There is also a

slight, deep-seated and indistinct crepitation at the posterior part of the right side.

I ordered four cups on the anterior and four on the posterior part of the chest over the seat of the pain, and the use of the following cough mixture:

℞. Syrup tolutan., ℥vj.
Tinct. digital., ℥j.
Vin. ipecac. ℥iv.
Tinct. opii, ℥ss.
Sol. acac. ℥iv.

M. S. Dose, ℥j. every two or three hours.

On the next day, the patient expressed himself free from pain. The physical signs remained the same.

During the next eight days there was no perceptible alteration in the condition of the patient. The cough had, in some degree, perhaps, abated. The expectoration had in no wise changed its character nor diminished in quantity. The patient was daily spitting up from one and a half to two spittoons, of the ordinary size, full, during the twenty-four hours.

Deeming the use of astringents advisable, the patient was directed to take the acetate of lead, in combination with opium, though without any apparent relief being obtained.

The hectic fever and night sweats were greatly mitigated in intensity by the administration of the remedies usual in such cases. Day by day, however, the patient grew more and more feeble; his appetite was totally lost; he was scarcely master of enough strength to walk about the wards. His cough distressed him by day, and kept him awake at night. He had occasional diarrhea, and once or twice every week exhausting night sweats. Still the physical signs remained fixedly the same. Blisters were used; permanent counter-irritation; cups when pain was complained of; tonics, restoratives, nutricious food, and finally cod liver oil. This was in September and October. Towards the close of the latter month,

while calling the attention of the young gentlemen present at the hospital clinique to the case, I heard unequivocal signs of the existence of a cavern in the mammary region of the right side. This was while the patient was lying down. When, at my request, he sat up, all cavern signs had entirely disappeared, and were never after perceptible, notwithstanding careful search was made almost every morning, from that time until the patient's death.

After one month of unavailing treatment by cups, blisters, opium, ipecac, and emetic tartar, it was deemed advisable to bring the system of the patient gently under the influence of mercury. This was effected by the administration of two grains of blue mass, and quarter of a grain of opium, three times a day, and the mercurial ointment dressing to the blisters, and was kept up for a fortnight. This proved quite as inefficient as the former remedies had done. The cod liver oil was now exhibited in combination with the syrup of iodide of iron, and the blisters repeated. The oil produced such irritation of the bowels that it was suspended after using it ten days. The iodide of iron was continued however for three weeks. As high as twenty-five drops of the syrup of iodide of iron was given three times a day, without producing any sensible change in the condition of the patient.

During the second, third, and fourth week in November, the sugar of lead in doses of one grain in combination with half grain of opium was given every six hours. The expectoration seemed for a few days to be lessened in quantity—its characters were uniformly the same. Other astringents were taken without appreciable effect. Two months had passed away, and the third was half advanced when the only noticeable change in the physical signs was an increase in the dullness of the right side inferior to the third rib, and a greater feebleness of the respiratory murmur over same region. And perhaps the bron-

cophony was more distinct than it had been before—though it was very clear and loud from the first.

Emetics of ipecac and sulphate of copper were now exhibited every other morning. Doing no apparent good, and being bitterly complained of by the patient, they were omitted, after the fourth had been taken.

The patient at this date, 15th of December, lies entirely on the left side. Lying on either his back or right side increases cough. Within a few days past has had considerable dyspnea on the right side. Expectoration copious and fetid. Allowed brandy and water several times a day.

Gradually the patient continued to wear away. His strength steadily failed. His appetite was entirely lost. The pain in the side recurred every day or two. The dyspnea slowly augmented. The cough harassed him constantly. Hectic, night sweats, the copious expectoration and an abundant diarrhea, which more than twenty remedies had failed to arrest, eventually exhausted the remaining powers of the patient, and on the 5th of January, just four months after I had first seen him, he died.

Autopsy twelve hours after death.—Left lung healthy. The whole of the right lung, save a small portion of the superior lobe, not larger than a man's fist, which was healthy, was hepatized. Both varieties of hepatization were present, the red at the superior and middle portions of the lung, the grey at the lower. An abscess, about the size of a hen egg was found near the surface of the lung just opposite the point where the cavern signs had been detected during life. It was filled with a very thick tenacious pus. Another abscess, of five times the volume of this, was formed on a direct line with it at the base of the lung, and was formed by the lung, diaphragm and liver, one third of it occupying the superior surface of the liver, one third lay between the liver and lungs, its

walls being formed by the diaphragm and false membrane, while the remaining third was situated in the pulmonary substance. The contents of this were identical in every particular with those of the first. Towards the summit of the right lung where the friction sounds had been heard during life, numerous patches of lymph and traces of a recent pleurisy were found. Remaining organs of body healthy.

Louisville, Ky., March 20, 1850.

Erratum.—In my communication for the March number of the Journal I find that the date of the death of Mathias Gross is omitted. He died on the 18th December. D. W. Y.

ART. IV.—*A Case of Traumatic Tetanus.—Recovery.* By SAMUEL S. EMISON, of Scott county, Ky.

Wm. P., æt. twenty years, very healty and athletic, was accidentally shot on the 25th December, 1849; the tow, with which the pistol was nearly filled, entered the left leg a little above and behind the external malleolus. Several large wads of tow were extracted soon after the receipt of the injury, and his medical attendant, believing that all foreign matter had been removed, directed him to poultice the wound, keep the limb quiet, and take a cathartic occasionally. In a few days the wound commenced suppurating, and another large piece of tow was removed. Soon after this, the wound healing rapidly, he disregarded the instructions which had been given. On the 13th January he rode several miles on horseback, the weather being cool and damp, and at night he felt considerable pain in the wound, with cramps of the muscles of the leg. On the 14th, these increasing, he was bled ℥xvi. without relief. His suffering gradually increased,

and on the morning of the 15th, when I first saw him, there was constant rigidity of the muscles of the inferior extremities and abdomen. In addition, there were paroxysms of spasmodic contractions of the diaphragm, muscles of the back, and superior extremities, recurring every twenty minutes and producing well marked opisthotonos. These lasted but a few seconds each time. The skin was bathed in perspiration, bowels costive, pulse and respiration, during the intervals of the paroxysms, respectively ninety and twenty; urine scanty, high colored and voided with difficulty, tongue slightly coated, otherwise healthy; the patient had slept none the preceding night. The wound had nearly healed, but was dry, with everted edges; ancle somewhat swelled. At 10 o'clock, A. M., a powder, composed of calomel gr. xxv, ipecac gr. ij, was given, and a poultice of hops applied to the wound. At 12 o'clock, A. M., castor oil ℥jss, was given. An hour and a half after, a copious, feculent stool was procured, and soon after another. After the first, sulph. morphia, in doses of grs. ss., was given every half hour, for two hours, and afterwards laudanum gtt. lx every hour. After the third portion of laudanum, a disposition for sleep was manifested during the intervals of the alternate spasms, and the anodyne was suspended. No impression was made on the convulsions, which increased in severity, until 12 o'clock, P. M., when there appeared to be an abatement. The patient was directed to take the laudanum sufficiently often to keep him quite sleepy. Eleven o'clock, A. M., 15th, spasms again becoming severe; the treatment of the previous day was continued, except that the anodyne was given more freely, and a blister plaster substituted for the poultice. The cathartic procured but one small stool. The spasms were as frequent and more violent and painful than they had been during the previous evening. About midnight they again somewhat abated, but the exacerbation was

renewed about 10 o'clock, A. M., 16th. The sufferer was how much exhausted; pulse one hundred and five and weak; skin perspiring freely; no appetite. The blister was dressed with basilicon ointment, and the laudanum given, *pro re nata.* The condition of the patient was now most distressing; the spasms were excited by every sudden noise, and every movement of his body. The remedies which had been employed, seeming to give little relief, if any, at 6 o'clock, P. M., 16th; sulph. quinine ℥ss. was given, and the anodyne treatment was continued. There was a remission at midnight which continuing at 12 A. M., 17th, rhei. pulv. grs. xl, was given, and three hours after, castor oil ℥ij; acted freely. The anodyne was given p. r. n., and at 6 o'clock, P. M., sulph. quinine ℥i., was given. Ten o'clock, A. M. 18th, skin not too moist, pulse eighty, with more volume, periodic spasms very much less severe and not recurring oftener than once in two or three hours; some appetite; sleeps better. Laudanum given less frequently, and at 6 P. M. quinine ℥ss. Ten A. M., 19th, spasms return at distant intervals, and very slight, except in the muscles of the abdomen; that region is still almost as hard as a board. The convulsive movements, which now seldom take place, except when the patient attempts to turn in bed, very much resemble those produced by a light shock from electricity. The treatment of the past few days, detailed above, continued four or five days longer, during which time the spasms entirely disappeared. The wound was made to suppurate with some difficulty, but finally healed and the man is now well.

I have given a faithful and by no means an exaggerated account of what I considered a case of traumatic tetanus, arrested mainly by the use of quinine. Others may draw different conclusions. It may be said that the large doses of opium and mercury were the better remedies; or, that the vis medicatrix naturæ achieved a victory

over both disease and empiricism combined. I confess that it was with little hope of benefit that I gave the quinine, nor do I claim originality for the use of the article in such cases. The practice originated with one of the oldest and most eminent surgeons of our country. At all events it would not be amiss to give quinine a fair trial, in a disease which has been so long one of the opprobria of the profession.

Scott county, Ky., Feb., 1850.

ART. V.—*Remarkable Complication of Diseases.* By CLAIBORNE PIRTLE, M. D., of Louisville, Ky.

On the 30th January, 1850, I was called to see William Poutch, a lad aged fourteen years.

I learned from his family that he came home the day before complaining of very great pain in his knees and elbows, extending up the arms, and it was with great difficulty he could walk or use his arms. I found him on my first visit pretty much as I was told he had been the day before, when he came home from his work in the foundery. Upon examination I found great tenderness and soreness of the knees and elbows, extending up the arms. There was neither swelling, heat, nor redness of the parts complained of, but they were painful when moved. The tongue was coated with a yellowish fur; the pulse excited but little, if any; the face was somewhat flushed and covered with a gentle perspiration; bowels rather inactive; no headache. I ordered the following prescription: ℞ Hydr. submur. grs. viii, sulph. quinine grs. iv, pulv. opi. gr. ss. mix, make iv pills; one pill to be given every two hours.

January 31. The medicine had not moved the bowels; great complaint of pain in the abdomen, but there is no disposition to evacuate the bowels; knees, arms, and

wrists painful; has vomited several times this morning; great thirst; pulse about the natural frequency but feeble; no fever; tenderness and pain over the abdomen upon pressure, particularly over each iliac region. Ordered an enema of castor oil and spirits turpentine to be given in thin starch water, and thus succeeded in producing three motions upon the bowels, of a consistent bilious character.

Evening.—Pain still continues in the bowels, with repeated vomitings. Ordered, to be given through the night, a pill of camphor and opii, to be repeated frequently until the bowels or pain in the abdomen should be relieved. Sinapisms of mustard were ordered for the abdomen.

February 1st.—Found the patient easier than the day before; had slept some and did not vomit. While examining him this morning, I found his ears livid or of a purplish hue, and the skin evidently in a state of deep congestion. He told me that there was a breaking out upon the tops of his thighs, and, upon examination, I found the nates and gluteal region covered with a great many purple spots, some of them, perhaps all, some little elevated above the surface of the surrounding skin. I ascertained the existence of similar purple spots upon various other parts, and especially upon each elbow and ankle. On examining the mouth I discovered a sprinkling of these spots upon the epithelium of the lips and gums and palate. There is no fever, but the thirst continues. Ordered sulph. quinine ℈i, carb. ammonia ʒi, simple syrup ʒij, paregoric ʒj, mix; dose, one teaspoonful every two hours. On my visit in the evening I found that the gastric symptoms had come on again, and that everything taken into the stomach had been vomited up. Thirst very great. Directed ice to be swallowed, and ordered hot cloths, wrung out of heated spirits, to be applied to the abdomen; discontinued all medicine internally.

February 2.—The patient had a bad night; slept but little; vomiting continues; considerable tympanitis and thirst; pulse frequent and feeble. Ordered an enema, but did not succeed in opening the bowels. Gave brandy and water; directed warm flannel to the bowels; the stomach has constantly rejected all nourishment.

February 3.—All the symptoms continue as on yesterday; bowels not moved; tympanitis considerable; everything taken into the stomach is thrown up. Ordered eight leeches to the epigastrium, and sinapisms and hot fomentations over the bowels. Directed chicken water as diet.

February 4.—Found the patient worse; he was throwing from the stomach a fetid, colored fluid, indicating a reversed action of the peristaltic motion of the bowels. There was a peculiarly anxious expression of countenance. An enema of castor oil and turpentine was given in thin starch water, and a discharge of hardened feces was obtained. Prescribed creosote mixture. Gangrenopsis showed itself in full force about this time.

February 5.—More quiet this morning; slept well last night, but manifested a marked typhoid state of the nervous system. Fluid magnesia, with as much camphor as it would hold in solution, was ordered to be given frequently through the day. In the evening found the sufferer sleeping soundly; has not vomited since some time in the night; tympanitis has almost disappeared, but there is fullness in the epigastric region; knees not so painful; no particular suffering complained of at any point to-day.

February 6.—On my visit this morning I found him very restless again. Pulse excited and some fever; commenced vomiting again this morning; left off the brandy; gave him, as before, ice freely. Saw him in the afternoon, with Dr. Bell; all his previous symptoms aggravated; vomiting the contents of the bowels; gangrenous condition of the mouth; fetid breath. Ordered charcoal

and yeast to be given freely, and also Catawba wine, by the ounce, frequently repeated. A combination of castor oil and turpentine was given by the mouth, and injections of the same were directed.

February 7.—No change in the aggravated symptoms; nothing was retained on the stomach; great tension of that organ; the mind was rational; had slept some during the night; thirst great; expression sunken and anxious; as the injection had not been given, ordered it this morning; succeeded in opening the bowels; gave wine, but he died at three o'clock, P. M.

Remarks.—Dr. Pirtle has detailed, with minuteness, the principal features of the remarkable complication of disease in this case. In a long experience we never saw anything like it. The little victim was one of the most remarkable boys we have ever known. He was very industrious; free from everything like vice, temperate in all things, and we found it impossible to trace his diseases to violations of the laws of health, either in his trade, his mode of life, or the location of his dwelling. His parents have the appearance of being very healthy.

In these circumstances it is difficult to account for the complexity of diseased actions manifested in his case—purpura, gangrenopsis and typhoid fever were well marked in their presence.

The case is a curious one in pathology, and, as such, is submitted to the profession. A portion of its described features make it resemble some of Andral's cases of gastro-enteritis, but no one could have mistaken the case at the bedside.—*Ed. Western Journal of Medicine and Surgery.*

REVIEWS.

ART. VI.—*On the Treatment of Gun-Shot Wounds.* By BENJ. W. DUDLEY, M. D., Professor of Surgery in Transylvania University. Transylvania Medical Journal, Vol. 1, No. iii. Dec., 1849.

On the Use of the Bandage in Gun-Shot Wounds, etc. By BENJAMIN WINSLOW DUDLEY, M. D., Professor of Anatomy and Surgery in Transylvania University. Transylvania Journal of Medicine, etc., Vol. 1., p. 501. 1828.

It has been remarked that members of the medical profession are prone to pay undue homage to genius, and to bow the knee to authority without that scrutiny which should ever characterise those on whose action often depend the issues of life or death, hence, the thousand instances in which they have been found wandering in a vicious circle, guided by a delusive light, while all nature lay spread out before them, inviting their attention, and offering to all, and yielding to those who accepted the offer, the richest repast of unadulterated truth. Perhaps, no department of surgery has suffered more than the military, by this blind adhesion to authority, and consequent utter neglect of all true sources of information. Occasionally a light shed its rays over the blood-stained battle field, and an error gave place to truth, until the accumulated stores of ages have furnished ample materials to bless the nineteenth century.

The treatment of gun-shot wounds, based upon rigid observation and an impartial analysis of facts, so bountifully supplied by the records of the past, and the experience of the present, is now well up to the high standard of other departments of the science. Rational treatment,

marked by simplicity and an adaptation to the indications presented, has supplanted the empyrical and complicated practice of other times, and thousands whose wounds would formerly have resulted in the loss of life or limb, now live to bless the memory of those whose enlightened experience has wrought this change so fraught with good to man.

The time was, when the civil surgeon, who had scarcely ever smelled gunpowder, exhibited a dignified contempt for any and everything that emanated from his brethren, who ministered to those who followed the fortunes of war. The sentiment, thus expressed, was perhaps in some degree justified by the tardy advancement of the science of military surgery. Considering the vast opportunities offered to army surgeons, by the casualties of war, for the most extensive observation of every species of wounds, it is not a little surprising that the science did not keep pace with the art. While many army surgeons attained a nice tact in the dressing and management of desperate wounds, few, during a long period of time, added anything material to recorded science, or succeeded in developing any new or valuable principle of practice. Whether this was owing to the fact that the duties of the military surgeon were usually performed under circumstances highly unfavorable to calm and systematic research, or, that these onerous duties were rendered frequently in the field, where neither time nor convenience permitted the military surgeons to record the particulars and results of their extensive observation, or to other causes, the reproach is not now as just as it was formerly.

Many able surgeons, fresh from fields of blood and carnage in more modern times, have accurately observed and faithfully recorded the valuable information gleaned amid the havoc of war, and the day has gone by, when we may reasonably expect the civil, to instruct the mili-

tary surgeon in the duties of his peculiar vocation. On the contrary. the former is deeply indebted to the latter, for the overthrow of many fatal errors, that too long stayed the onward march of modern surgery; and for the establishment of numerous conservative principles, the result of diligent inquiry and enlightened experience on many a bloody field, more especially during the continental war that terminated in 1815. To military surgeons, the honor is due of having first contested, and finally, overthrown the pernicious doctrine of Hunter, that amputation must be deferred until suppuration is established, notwithstanding the operation may be clearly and absolutely demanded by the nature and extent of the wound; to them we are indebted for correct information in regard to the practical difference between local and constitutional gangrene; they dissipated the delusion, that it was impossible to command hemorrhage from the large arteries; relieved disarticulation at the hip-joint from the stigma of being a murderous operation, and threw a cheering light on numerous minor points, over which the profession had long groped in darkness.

A moment's reflection will satisfy any one that enlarged observation and experience, which hapily falls only to the lot of surgeons on the field of battle, can alone enable one to appreciate fully, the varied nature and correct treatment of the important class of wounds, which constitutes the subject matter of the essay before us. The philosophical principle, laid down by Percival, is as applicable here as to any other practical branch of medicine. "The materials of just pathology can be drawn only from large masses of observation assembled and arranged in the order of their subjects; nor can durable improvements in practice be established on less full and luminous evidence." Believing this great principle to be true, in all its extent, we feel it due alike to ourself and to our readers to confess our incompetency to do full justice to the subject,

upon the consideration of which we are about to enter, if compelled to rely wholly on our own circumscribed observation. Although, in the outset of our professional career, we were thrown where the violence and casualties of frontier life made gun-shot wounds no unfrequent occurrence, and not a few came under our charge, yet we confess that our experience, like that of all civil surgeons, is far two limited to establish a mode of practice, except so far as its correctness and value may have been confirmed by others, who may have been placed amid scenes more favorable to a full and unrestricted study of these complicated accidents. Hence we shall not hesitate to draw liberally on approved authorities in support of many practical remarks which we may have occasion to make on the essay before us.

Our references may appear to be unnecessarily minute and numerous; this, however, will doubtless be pardoned by the reader, when he remembers the influence of the great name that gives weight to the principles contained in this essay, and the remarkably exclusive practice inculcated therein; the utter contempt of its distinguished author, for "the books;" and the high and extraordinary pretension to originality, which forms a distinguishing feature in almost every effusion of his pen, and which is no less prominent in his annual didactic course of instruction. A common introduction to many of the eminent professor's lectures, runs about as follows: "Gentlemen, I regret to say that, in this matter, I stand alone; that I do not know a single author to whom I can refer you for information, who has treated the subject rationally. I would, therefore, impress upon you the vast importance of an undistracted attention to what I am about to say, embracing, as you will perceive, principles and practice to be learned no where out of this hall."

Another consideration justifies us in the exercise of more than usual care, in bringing to our support the

great names, of acknowledged ability, who have won for themselves undying renown, by enlarging the surgeon's sphere of usefulness, and by contributing to the relief of suffering humanity, in numerous cases previously thought to be beyond the reach of the highest professional skill. No one has ever yet been permitted to differ in opinion from Professor Dudley, even on the most insignificant points, without subjecting himself to the serious charge of being actuated by base and unworthy motives. His friends seem to regard him as absolutely immaculate, and they cannot conceive the possibility of an honest difference of opinion between him and others. Hence, no sooner is one of the Professor's doctrines controverted, than the whole kennel rises in fury, and bays forth indignation in a language and style unknown to true science, and which can find a corresponding response only among a certain portion of that debased London population, whose peculiar propensities, habits, manners and diction, are too well known to need illustration.

These unmanly denunciations shall have no influence upon us; on the contrary, it shall be our constant aim to avoid being provoked into the betrayal of an intemperate zeal, which, but too often, usurps the place of knowledge, and shamefully exposes the violence of the unsubdued passions or the intellectual poverty of its unfortunate victims. We would not, willingly, do any injustice to Professor Dudley, and, with every disposition to assign him the rank to which we believe he is fairly entitled, we may be indulged while we briefly scan the eventful history of military surgery, as applicable to the peculiar class of wounds treated of in the essay before us.

When and by whom gunpowder was discovered, is still involved in great obscurity. Roger Bacon was doubtless acquainted with its detonating force, in the twelfth century, but the honor of the discovery is generally awarded to the genius of Berthold Schwartz, a monk of Mayence,

who, it is believed, brought it into practical use about the close of the thirteenth or the beginning of the fourteenth century. The Venitians, having acquired a knowledge of the properties of this wonderful compound, availed themselves of it for military purposes about the year 1350.—Immediately afterwards, an acquaintance with its astounding power spread rapidly to every part of Europe, effecting a radical change in the mode of warfare, and introducing to the surgeon a species of wound, marked by decided peculiarities, never before submitted to his care and observation. The general tendency to a belief in the marvellous, which formed so prominent a characteristic of the human mind at that age, very naturally led the uninstructed to attribute the astounding effects of this new and potent agent to the power of magic; whilst the surgeon, speculating on the novel features presented by the wounds inflicted by its agency, regarded them as poisoned, and therefore requiring peculiar treatment; a treatment intended—and, as they supposed, adapted—to eliminate or neutralize the venom, and to obviate the singular effects of the unusual forms of this new missile, and the supposed ustion of the parts. This error became universal, and exerted its cruel influence for ages. Hence the actual cautery, boiling oil, corrosive acids, etc., were everywhere resorted to, inflicting serious injury, and an incredible amount of unnecessary suffering. According to M. Bauden, this practice is, to a certain extent, still in vogue amongst the Arabs.* An ointment highly extolled by Albucasis has, to the present day, maintained its ancient renown, and is held in universal esteem by that notable people.

This error maintained its ascendency and dominated over all minds until the time of that remarkable man, Ambroise Paré, to whom the medical profession, in all its

* Clinique des Plaies D'Armes a Feu. 1836.

departments, is so largely indebted for valuable discoveries and improvements that, in our day, are not unfrequently claimed by men of mediocrity, as the veritable offspring of their own puny intellects. Even Paré was, for a time, misled, and his splendid genius bowed before omnipotent authority, until accident revealed to him the truth, and shed light upon errors rendered venerable and sacred by the lapse of ages.

With his accustomed candor and naiveté, Paré confesses that chance led to the happy discovery. Young, ardent, and unpracticed, he plodded onward in the beaten pathway pointed out by the masters; and his ministrations to the wounded soldiery, who unfortunately fell in the ranks of the army of Piedmont, were in strict accordance with the precepts he had learned. Providence, however, favored a reformation pregnant with good to man. Paré saw, with grief, but a portion of the wounded dressed, when the medicinal agents, at that time believed to be essential in neutralizing the poison of gun-shot wounds, were altogether exhausted. Forced by necessity, he reluctantly resorted to milder dressings, the only kind then at his command, and under the influence of dreadful apprehensions he retired to rest—but not to sleep. Fear agitated his humane heart, and effectually banished sleep from his eyes during the whole of that long and dreary night. With the early dawn he arose to visit the poor disabled soldiers, expecting to find all those dead who had failed to receive the usual treatment. To his great surprize and joy, he found them buoyant in spirits and free from pain and fever, while those whom, the previous evening, he thought most fortunate, were dejected and haggard and writhing in agony, and parching with fever.* All this would have imparted no instruction to a mere routinist, or to one who allows prejudice to subdue rea-

* Œuvers Completes d'Ambroise Paré, tom. ii, p. 127.

son; the one would have continued his silent, thoughtless adhesion to authority; the other, would have discovered naught in it but accident. Not so, however, with Paré; in the beautiful language of one of his own countrymen: "Apotre de la vérité, il la proclama hautement, et se fit des ennemis parmi ces hommes que leur médiocrité a toujours poussés à défendre leurs erreurs et leurs préjugés avec une persévérance désolant."

In spite of the most bitter and unrelenting opposition of ignorance and fanaticism, the great architect of surgery succeeded in dispelling the mischievous and fatal errors, which had wrought so much evil in the management of gun-shot wounds; triumphantly established more correct notions in regard to their nature; and caused a cruel and empyrical mode of treatment to give place to one, the simplicity of which was equalled only by its success.

We cannot but be astonished at the correctness of the views, so far in advance of his age, presented by this wonderful man in a discourse addressed to Charles, the Ninth, on the occasion of the death of the king of Navarre, who was wounded at the siege of Rouen. In this discourse, Paré clearly demonstrated the mode of action, and the peculiar effects of round bodies, and other projectiles on the various sub-systems of the animal economy; and the true causes of the discoloration, and other peculiarities and dangers attending such wounds, are lucidly pointed out.

It is quite unnecessary for us to enter into a full analysis of Paré's doctrines—let it suffice to say, that before his genius the ridiculous theory adopted by Very, Botal, Vigo and others, disappeared as does the morning dew before the rising sun; and with it vanished forever, from civilized surgery, those phantoms of venom and ustion, that had so frightened the surgeon from his propriety, and entailed upon suffering humanity untold evils.

Paré wrote comparatively little upon gun-shot wounds,

yet, if we except some complex and antiquated ointments in use at that time, little was added to the invaluable truths he taught, until we approximate closely towards our own age.

Paré's predecessors, as remarked by Richerand, limited themselves to puerile commentaries on the writings of the Arabian authors, and reduced surgery to the use of ointments and plasters;—with rare exceptions, his successors did little better than offer their servile devotions, at the shrine of the master, whom they adored.

About the same period, Maggius, in Italy, nobly met the objections of Sennertus, and lent his powerful energies to the overthrow of the absurd theory that had so long sustained an irrational and barbarous treatment. Not content with ingenious speculations, however plausible, he appealed to observation, and by a rigid course of experiments, instituted for that purpose, demonstrated the non-venomous qualities of gunpowder; and clearly proved that the projectile was never heated to a degree sufficient to burn even the most combustible substances, and, of course, it could have no such effect on the living tissues. These views induced him to adopt a treatment, at once simple, rational, and successful.

The doctrines of these two great masters were sustained with zeal, energy, and uncommon ability, by J. B. Cancano Leone, of Milan, whose influence and unanswerable arguments, drew to their support almost all intelligent surgeons of the day.

The same views were maintained by Fallopius, in France, and Felix Wurtz, in Germany.

Guillemeau and Francis Thanchin taught the important doctrine, that gun-shot wounds differ from others chiefly in the extent of contusion.

William Clowes, at one time a naval surgeon, but subsequently attached to the army, published a work in 1591

on this class of wounds, distinguished especially for an ardent advocacy of mild dressings.

About 1676 Wiseman gave his contemporaries a practical treatise on gun-shot wounds, which was followed two years afterwards by a learned work on the same subject by John Brown.

In the early part of the eighteenth century several German writers published their views, amongst whom stands preëminent the distinguished surgeon Heister, to whose "General System of Surgery and Surgical Cases" we have often referred, with much profit on various important and practical points.

About the middle of this century, John Ranby published his method of treatment, characterised mainly by his advocacy of a free use of the lancet, light, easy dressings, and a sparing use of instruments.

Francis House, a careful and accurate observer, wrote on the same subject in 1742. The French revolution gave occasion for the display of surgical talent which was, not only not neglected, but highly improved by such men as Baron Percy, Larrey, etc., to whom we are indebted for the valuable results of a protracted and enlightened experience.

Hunter's great work was published in 1794, and in spite of some errors, which modern observation and experience have corrected, it yet stands and will ever remain a monument to his extraordinary genius.

The mere enumeration of those who have cultivated this department of surgery since that day, and given the results of their labor to the profession, would occupy more space than can be allotted to this article. The Bells, Chevalier, Richerand, Boyer, Hutchison, Cooper, Guthrie, Hennen, Lebert, Jobert, Blandin, and a thousand others have, in systematic works, or in essays scattered through the annals of the science, labored to shed light upon the nature of gun-shot wounds, and to improve the

practice. Of those that have fallen under our notice, we may designate as worthy of special regard, the works of Guthrie, Hennen, Jobert, and Blandin; the two latter had ample opportunity for observation during the bloody scenes of the modern revolutions of Paris, and did not fail to avail themselves of the facilities afforded by well organised hospitals, for a faithful record of their observations. In regard to Hennen's Military Surgery we cordially endorse the complimentary notice of the "London Medical and Surgical Journal," "it is a work of supererogation for us to eulogise Dr. Hennen's Military Surgery, there can be no second opinion on its merits."

It is somewhat remarkable, that neither our struggle for independence, nor our subsequent wars, have contributed much to the improvement of military surgery, at least, we do not remember any original or elaborate work from these sources.

To the numerous authors, already alluded to, we have now to add the name of the distinguished Professor of Transylvania. As his professional career has been passed in civil life, where comparatively few cases of gunshot wounds have afforded him the opportunity to study their nature and treatment, we naturally anticipate that he is induced to write, for the purpose of directing attention to some important matter, which he supposes has escaped the renowned military surgeons, who have cultivated this branch of surgery on an extended field, amid the carnage incident to the conflict of powerful armies. Such will appear to have been his purpose as we proceed. We have taken the liberty to associate with the paper, now before us, an article published by the Professor on the same subject in the "Transylvania Journal of Medicine," etc., 1828, with a view of presenting to our readers, at one glance, all that the Professor has written in regard to this important class of wounds. The present paper opens with the following unqualified declaration:

"Every expression of opinion by authors upon the nature of gun-shot wounds, leaves the impression upon the mind of the reader in behalf of the peculiarity, which involves sloughing of the fibres in the passage of the ball." The same position was assumed by the Professor in 1828, speaking of the liability of gun-shot wounds to run into violent inflammation followed by sloughing, he says: "Hence the surgical axiom that gun-shot wounds must slough, suppurate and heal by granulation. In observance of these views, the propriety of preserving the orifices of the wound free and open is inculcated; while great solicitude is experienced that the whole tract of the ball may be kept open."

This position is not correct in all the extent here given to it. It is true that the authors acknowledge, as a general rule, that gun-shot wounds will suppurate and heal by granulation; yet, many of them confess that they have witnessed the healing of such wounds by the first intention, and inculcate the propriety of endeavoring to effect this desirable end in all favorable cases. S. Bell admits that such wounds do sometimes heal by first intention, but says they "rarely admit of being united by the adhesive inflammation."*

Dorsey confesses that most gun shot wounds "must be allowed to suppurate," but declares that these wounds "do often heal by the first intention."†

Lebert says: "Des trajits des plaies par d' armes à feu guirissent quelquefois en partie ou en totalité par premieré intention."‡

M. Cloquet says, if the wound is not complicated by hemorrhage; if no foreign substance is present, or is removeable with facility, etc., "on peut tenter la réunion

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* First Lines, 1808, p. 70.

† Surgery, vol. i, p. 52.

‡ Arch. Gen. de Med. Tom. vii, p. 341.

par premiére intention de la base des lambeaux, et leur sommet seul suppure dans ce cas."*

Roche, Sanson, and Lenoir, after alluding to the healing of gun-shot wounds, say: "des plaies résultant du passage de balles de fusil à travers les parties peuvent guérir de la méme maniére. Des faits de ce genre ont été observé par Hunter et par Larrey." They also note the case of a young man in July, 1830, who "avait eu la cuisse traversée de part en part par une balle, et chez lequel les orifices sentiment du trajet ont suppuré, de telle sorte que la guérison a été compléte dans l' espace de quelques jours."†

Bauden says: "La plupart des coups de feu qui n'ont lésé que les parties molles, en ne laissant au milieu d' elles aucun corps étranger, quérissent sans suppuration profonde. Les ouvertures d' entreé et de sortie se ferment par le developpement des bourgeons charnus, et se cicatrisent ensuite comme si la plaie provenait de l' application d' un cautére ou d'un moxa. Les escarres qui tapissent te trajit disparaissent dans ce cas par de voie de la résorption."‡. The same author while combatting an argument in favor of debridement; viz.: that it facilitates the escape of extravasated blood, says: "La force d' asorption sera assez active sans qu' il faille aider à la nature toujours si puissante en parille cas."§

Guthrie says: "An idea is entertained by some, that the whole track of a gun-shot wound must suppurate, and a slough of dead matter be thrown off; but this is an erroneous opinion, taken more as a necessary than a positive fact," etc.‖

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* Dic. de Med. 1827.

† Pathologie Medico-Chirurgicale, Tom. iii, p, 411.

‡ Clinique des Plaies D'armes a Feu., p. 35.

§ Ibid, p. 36.

‖ On Gun-Shot Wounds, p. 61.

M. Jobert says: "On a conseillé de réunir, par preniére intention, certaines plaies par armes à feu, celle de la face, par example. Hunter et plusieurs chirurgiens Anglais ont soutenu avec chaleur ce mode de traitement, et ont fait un pompeux éloge de tous ses advantages, parfois méme de ceux qu'il n'a reellement pas. Il est de fait, cependant qu'on a réussi assez souvent en se conduisant comme ils l'ont indiqué, surtout dans les cas où la contusion était modéreé. J'ai pet moi-méme, sur les blessés de nos sanglantes journeés de juillet constater la vérité des observations des chirurgiens Anglais," etc.*

The authors generally regard adhesion by the first intention as exceptional, while with Professor Dudley it constitutes the rule. We leave to our readers to determine by observation, who is in the right. Having had the fortune to receive our first instruction from Professor D. we pursued his practice, with implicit faith, until taught by experience, that no single remedy, however valuable, should be relied upon, in the ever varying phases of complicated wounds, to the exclusion of others not less serviceable. We have never failed to resort to the bandage, when the situation of the wound would permit us to avail ourself of the benefits it affords; and we have seen several gun-shot wounds closed by adhesive inflammation under its influence; but we must candidly confess, that much the larger number would suppurate, in spite of the vaunted remedy; the former were without serious complication, easily freed from all foreign substances, and in persons of sound constitution. We do not pretend to be as expert in the use of the remedy as Professor D., though we learned the mode of applying it under his instruction, and labored hard to acquire a practical command of its magic power, and we suppose his extraordinary success

* Plaies D'Armes a Feu, p. 35.

is fairly attributable to the adroitness with which he adjusts his favorite remedy. We know that when others fail in cases similar to those which he has relieved without difficulty, the never failing reply is—"my friend, the fault is with yourself—you did not apply the roller properly."

The Professor alludes in very proper terms to the influence of the general health on gun-shot wounds. These, like all other injuries, respond to the condition of the system, and heal kindly or take on vicious action, as the constitution may be sound or impaired. Heister's* directions for the general management of the subjects of such wounds are very judicious, and correspond very accurately to the course pursued by Professor D. Suitable caution is also given against injudicious interference; "neither is unwise medication, nor injudicious evacuation less fraught with mischievous consequences in the treatment of gun-shot wounds."

In one particular the Professor's remarks in regard to the constitutional treatment that may become necessary in the management of many cases of gun-shot wounds are exceedingly defective. The whole class of tonics is discarded by the Professor and no substitute is presented calculated to arouse, in time of need, the sinking energies of the system, or to obviate the extreme debility so frequently met with after serious gun-shot injuries. We believe that almost the whole mass of the profession agree on the vast importance of this class of remedies in cases of great exhaustion, as from protracted suppuration, and Professor D. stands almost or quite alone in repudiating every article that belongs to it in such cases, as well as in all others. Tonics are nowhere to be found in all his materia medica; quinine, iron, and everything of

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* Surgical Cases, pp. 9, 105, etc.

the kind are excluded as inert or hurtful, and
left to struggle alone, unarmed, with exhaustin
and to sink with debility or rally only after wee
tense suffering and danger, when a few portions
able tonic, seasonably and judiciously administer
at once turn the scale in favor of life and restor
tient to the enjoyment of health. It is not a
prising that one who perceives so clearly, and a
ergetically where the system rises above the h
tion, should suddenly stay his hand and leave
system in exhaustion, without succor, to wrestl
enemy when depressed as far below, as it was
above, the healthy point. The demand for
treatment, in certain cases, appears to us to be qui
ous as the requirements of depletion in others.
not deem it necessary to adduce examples in il
of a matter, about which no one can possibly e
not so firmly bound to the car of a single opinio
hopelessly beyond the redemption of a change.

In the essay under review, the Professor proc
lustrate the fact that engorgements "may be o
tional or local origin," and remarks:

"But the diversity in the causes productive o
ment must naturally call forth the exercise of
the selection of the appropriate remedy."

This is all very well, but the reader is left to
ercise" of his own "wisdom," as no aid is affc
"in the selection of the appropriate remedy,'
any rules given which would indicate the use
forbid a resort to another; indeed, there is not
but a hint at something very desirable, unac
by the slightest effort on the part of our auth
nish the desideratum. But if the one idea
which our readers will soon perceive pervades
before us, be correct, what necessity can there b
exercise of wisdom in the selection of the a

remedy," or what influence can be exerted in the selection by "the diversity in the causes productive of engorgement?" If a single remedy be appropriate under all circumstances, then all thought and reflection on the subject are utterly useless, and the labor of analysing causes is a wasteful expenditure of time. Where no choice is to be made no investigation can be required.

Mingled with illustrations of the wonderful activity of the absorbent system, (too familiar to the profession to need particular notice), in removing dead as well as living matter, we find the following paragraph, containing the most prominent and important feature of the essay before us:

"Mechanical pressure may be so adjusted as to prevent engorgement, however profound the injury, thereby presenting an absolute and insuperable bar to all mischievous reaction. That fallacious sentiment, so long cherished and ardently urged, wherein the roller is denounced by a large majority, embracing authors of the highest order, cannot resist the power of truth and the triumphs of experience."

In the Professor's former article on gun-shot wounds he asserts, in broad terms: "No surgical author, with whose writings I am acquainted, has suggested the bandage as an appropriate application in gun-shot wounds."

This cannot be regarded otherwise than as an extraordinary confession, since there is scarcely a writer in this department of surgery who does not, in some way, rank bandages amongst the remedial agents appropriate to the treatment of these wounds. Indeed it is scarcely possible to conceive that surgeons who had freely used the bandage in other wounds, prior to the discovery of gunpowder, and who were familiar with its beneficial influence, would at once abandon it in the management of gunshot wounds. True, they did not wholly rely upon it to effect a cure, and we shall hereafter show that it would

not then have been, nor is it now, proper to rely on the bandage in all cases. Valuable as we esteem the bandage, we think it will be conceded, by almost all, that there is much to be done in the management of gun-shot wounds besides the proper application of the roller.

If the roller has been ardently denounced by "a large majority, embracing authors of the highest order," we confess we do not know who these authors are. We are fully aware that the abuses of this remedy have been very properly deprecated by many in the warmest terms, and a few may have been driven by these abuses into the extreme of repudiating it altogether; but there is a very material difference between decrying the misuse of a thing and denunciation of the thing itself. We think our readers will be speedily satisfied that the assertion is unfounded, and that Dr. D. does not stand alone in appreciating the value of the roller, save in the excess of his admiration of its miraculous properties.

We may remark that a resort to bandages is regarded by many of the authors so much a matter of course, that they do not allude to them in very direct terms, but seem to take for granted that their value is so well established and so universally conceded that an argument in their favor would be out of place, and that no one will undertake the management of gun-shot injuries without the aid of these truly useful adjuvants.

But let us see if the application of the bandage to gun-shot wounds has not been taught explicitly by others.

Heister says, "the first intention is to use our utmost endeavors to prevent or assuage the tumor and inflammation." This is to be accomplished by dressing "with lint dipped in spirits of wine warmed, covering it with compresses wet with the same liquor." This venerable author wrote elaborately on the use of bandages and says, "they are often medicines of themselves, being the sole application for the cure of the disorder, as in many frac-

tures, luxations, hemorrhages," &c., and "to all the several parts and disorders of the body;" he declares that "recent wounds themselves will very often unite without anything more than dry lint and with a fitting bandage."*

He dressed gun-shot wounds after the example of Magatti and Belloste "but once in twenty-four hours, and many but once in two days, without taking off the whole *bandage.*"† He gives particular directions for the application of "longitudinal compresses and bandages in wounds of fire-arms, accompanied by fracture,"‡ &c. The same author relates the case of a soldier who "received a musket ball in his left side, just above the heart, passing out again at the back, between the third and fourth rib, by the scapula." This patient recovered in a few weeks. "The bandage applied the whole time was the napkin about his body, fixed by the scapulary bandage," &c.§

John Bell says: "But it is particularly to be observed that in gun-shot wounds, and other bruised wounds, though it would be imprudent to sew the parts, since it is impossible that they should altogether unite, *yet the gentle and general support which we give by a compress and bandage*, prevents them from separating far from each other, unites the deep parts early, and lessens the extent of that surface which must naturally fall into suppuration."‖

Boyer declares, "Le premier parsement doit etre fort simple et tres-doux. On remplit la plaie de charpie mollette qu'on soutient avec des compresses et un bandage qui ne doit pas etre trop serrè."¶

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*Gen. Sys. Sur. vol. i, p. 53—vol. ii, p. 295, &c.

†Heister's Cases, p. 59.

‡Ibid, p. 62.

§Ibid, p. 76.

‖Principles of Surgery, 1812, p. 30. The original was published in 1801.

¶Maladies Chirurgicales, vol. i, p. 508.

Bauden, giving an account of his change of opinion in regard to the supposed necessity for debridement, says:

"Les blessures furent panseès simplement; un bandage roulè et contentif constantment arrosé d'eau froide fut appliqué sur le membre dans toute son entendue; * * * la guèrison s'opèrait avec calme et rapiditè."*

Liston believes that suppuration is almost inevitable, but says: "it will be necessary to afford sufficient support to the parts by bandaging."† Nelaton embraces similar views‡

Hennen advised the use of the roller as the most suitable dressing on the field, and this, if found secure, was not removed until after the lapse of several days, depending on the season, climate, and the constitution of the individual or the peculiarity of his wound. He also commends the roller in edema, a frequent consequence of gun-shot injuries, and often complicated by pressure of the lymphatics, or injury to the nerves. In these cases the roller is aided "by gentle friction with moderately stimulating embrocation, succeeded by the local shower bath."§

The same distinguished surgeon declares: "A firm elastic bandage is an indispensable assistant in the cure; the motions of the ribs are not only restrained, but the parts are powerfully supported by its application; if fracture has taken place in any of the bones we have no other means so perfect for retaining them in their place; if a slight degree of emphysema has occurred before we see the patient, we thus prevent its further diffusion, and if we are called on before it takes place we may prevent its occurrence altogether. The extent and tightness of the bandage should be such as to oblige the patient to perform respi-

*Plaies d'Armes à Feu, p. 11.
†Surgery, p. 182.
‡Military Surgery, pp. 48, 71, 168.
§Pathologie Chirurgicale, vol. i., p. 206.

ration as much as possible by the aid of the diaphragm, and of the abdominal muscles."*

The following extract from the same author covers at once, with great force and brevity, almost all the curative properties of the bandage: "In the application of the bandage, however, nicety is essential, as on its due employment the removal of existing evils and the prevention of many more entirely depend. As a support to parts requiring approximation or separation; as preventing the insinuation of matter, blood, or serum among the interstitial spaces; as expelling them and preventing their accumulation when formed; as repressing redundant or protruding growths, or stimulating their absorption, and finally as retaining other applications in contact to the parts; too much attention can scarcely be paid to the application of the roller, and yet candor compels me to say that foreigners of almost all countries excel us in this fundamental part of our art. Our young students may study, philosophise, and reason well; but neither books, reflection, nor arguments will teach the application of a bandage without repeated practice."

The most judicious medical treatment and the ablest surgical operation will fail, if not assisted by good bandaging, and errors in both will soon be recovered, if a proper system is adopted."†

The only difference, apparently, between this deservedly celebrated military surgeon and our author, consists in the exclusiveness of the latter, adopting the bandage as the sole remedy, while the former, gives to it its proper rank without neglecting other agents of equal, and, on many occasions, of superior importance.

A number of cases are detailed in Professor Dudley's

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*Military Surgery, p. 295.

† Military Surgery, p. 77.

essay with more or less brevity in illustration of the treatment proposed. The first is that of a young man who was accidentally wounded "while he was getting over a fence." "The ball entered midway in the left thigh, and lodged on the outer part of the limb when it was distinguishable to the touch. Its position among the extensor muscles rendered its removal necessary." The dressing consisted of a roller embracing the whole limb from the toes to the hip, with a compress over the track of the ball. The dressings were kept wet with warm spirits during the first four days. "On the tenth day from their application, the dressings were all removed, when the limb presented a healthy appearance, the wound having healed by the first intention."

Case 2. "A man received a gun-shot in the upper and back part of the thigh, the ball ranged downwards and passed out on one side of the knee; thus traversing the whole extent of the thigh." This wound was dressed and treated as in the preceding case. "On the tenth day, the first and only dressing in this case was removed, and the patient dismissed well."

The narration of this case is broken by a eulogy on the miraculous powers of the roller, and a brief statement of the Professor's views in relation to "the virtues of cold water dressing," of which nothing was heard "until after the battle of Waterloo." The Professor says: "My own experience is altogether in behalf of warmth united to moisture; the injury resulting from reaction, when it is applied cold, is thereby avoided; and spirit is preferred in all cases of a doubtful character to water, because of the increased evaporation from the surface of the bandage, while subcutaneous absorption is promoted thereby."

A great deal was heard of cold water dressings long before the battle of Waterloo. As remarked by Hennen, the history of the employment of water as a dressing to wounds is curious and instructive. It was a common re-

medy, and held in high esteem among the Italians, immediately after the discovery of gunpowder, although its virtues were attributed to the mysterious and senseless incantations, at that time, believed to be necessary to impart to the simple fluid healing properties. Blondus published an essay on its efficacy, at Venice, in 1542, which was followed by similar works by Fallopius, Palatius, Joubert and Martell—all published before the beginning of the seventeenth century.

Joubert reprobates the resort to incantation, and prescribes the water: "sans aucun pronouncement de verbis metaphoriques, ne sur icelle, ni sur les drapeaux et charpie." He gives the following opinion of the advantages of the water dressing: "Je pense qu'un des principaux moyers pour haster le geurison des playes est de les tenir bein nettes; or est il que l'eau les nettoye et deterge bein fort. L'eau par sa froideur empesche l'inflammation, tempere l'ardeur des humeurs," etc.*

We may venture to give our own experience, without presumption when we declare that we do not flatter ourself that it is to outweigh that of our venerable author. We have not found either the warm or cold dressing applicable to every case, and we habitually make the preference to depend on the sensation of the patient, nor have we ever failed to derive most advantage from that which imparted the most agreeable sensation to the sufferer. Sometimes one would prove most soothing, while the other inflicted excruciating pain; in a different person, and a similar wound, we have found a complete reversal of these things.

But to return, a case very similar to the one, we have quoted, is reported by the Professor in the first essay already alluded to; the ball entered "the inferior part of the thigh, and came out near to, and on one side of the knee."

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* Apologie pour les Chirurgiens. 1601.

In this case the dressings were removed on the eigth day; when the wound was found perfectly healed.

Case 3.—"The ball entered the integument in the epigastrium, coursed directly downwards, and passed out in the immediate vicinity of the right external abdominal ring; reëntered and opened the scrotum extensively on that side; and lastly inflicted a large but superficial wound on the inner part of the thigh."

A thick compress was applied to the whole extent of the wound, and secured by a properly adjusted bandage. "Upon the removal of the dressings, eight days after they were applied, the wound had healed throughout by the first intention." The Professor adds: "Yet doubtless they were instrumental in the development of a large abcess, immediately adjacent to and in advance of the ileum." It is remarkable when a truly great intellect seises upon a few important principles, whether true or false, how pliantly they are bent to his will, and forced to apply, wherever it is desirable to their master. The Professor calls to his aid the disputed principle, that inefficient compression develops hemorrhagic excitement, but the bearing it has in the connection in which it is placed we do not exactly comprehend. We give our readers the benefit of the whole paragraph:

"Inefficient compression, whether made by the accumulation of blood in the wound, or from the application of dressings, develops hemorrhagic excitement, and causes thereby an alarming loss of blood from vessels which under other circumstances would elicit no attention: and although by the aid of compression, union by the first intention was effected in this case, yet it is doubtful whether deep seated abscesses can always be prevented by the same means, where the wound involves parts that are necessarily in motion, as connected with the great vital processes."

The Professor thinks this cannot be urged as an objec-

tion to the use of compression, since "recovery is notwithstanding more speedy, more certain, while the confinement is divested of much suffering through its agency."

Case 4. A collegiate pupil was wounded by the accidental discharge of a rifle. "The ball entered a little behind and below the hip; passing deep among the abductors of the thigh, it lodged immediately in the vicinity of the rectum, from whence it was extracted without loss of time." After thoroughly evacuating the bowels, compresses were applied and firmly maintained in place by the T bandage and roller. The bowels were moved by oil on the sixth day; three days afterwards "the entire restoration to health of the whole wound rendered farther dressing unnecessary."

Case 5. The ball "passed between the urethra and corpora cavernosa, opening extensively those three bodies; thereby giving a free passage to the contents of the bladder; with blood from the cylindrical bodies. The ball then entered the left scrotum, and left bare the testicle and spermatic chord. In its course it removed a large portion of skin from the front of the left hip; and, lastly, entering the outer part of the wrist, it passed between the skin and extensor tendons of the fingers to the styloid extremity of the ulna, where it made its final exit."

The usual dressings were applied. "At the expiration of a week, all the wounds, with the exception of that on the hips, were closed, and at the removal of the second dressing, twelve days from the injury, he was well."

This case was reported by the Professor in 1828, and the result of the case as there given is: "the wounds of the wrist, cavernous bodies, urethra and scrotum healed by the first intention, *except a slight suppuration from the latter.*"

Case 6. A school boy "lost the ends of the fingers of one hand." Dressed with adhesive plaster and the roller. Those fingers which retained sufficient integument to

er the extremity of the stump, healed by the first in-
n; the others suppurated and healed by granula-
without anything bearing an approximation to
hing."

Case 7. "The ball (of large caliber) entered the right thigh and opened the femoral artery, causing a gush of arterial blood, which projected several feet from either orifice. Passing, in its course, behind the bone of the left thigh, it inflicted a most distressing wound upon the left femoral nerve." The usual dressings were applied. On the eleventh day no pulsation was discovered in the posterior tibial artery; three days afterwards, the fourteenth from the time of the infliction of the wound, the anterior tibial artery was examined, and gave satisfactory evidence "of healthful arterial circulation."

The dressings were removed on the eighteenth day, "when the very agreeable evidence was set forth, of union by the first intention having been completed, with the exception of a little integument, throughout the wound."

The Professor is evidently not as careful as he should be, in regard to dates, thereby leaving points to which the captious may, hereafter, take exception. In the account of this case, published in 1828, it is stated that pulsation was discovered on the twelfth day, and "on the fourteenth day the entire bandage was removed from the limb," and the wound found as described in the present essay.

These discrepancies may appear to be slight matters, and we feel confident that they may be satisfactorily explained, but the time will come, when they will be pointed to as evidence of want of care and accuracy, and thus throw discredit on the whole case. The discrepancies are nothing to those who know the venerable writer, and appreciate his nice sense of honor and sterling integrity, but posterity will not regard a difference of four days in the statement of the same case, by the same gentleman,

as a slight matter; especially, in a case so remarkable as the one before us.

Although the wound in the left thigh healed kindly, yet the patient suffered intensely from irregular muscular action, during several months, and as stated in 1828, he had not "entirely recovered the third year after, when he left this country."

"Similar distressing consequences to wounded nerves," have been under the charge of the Professor very often. Three cases are briefly stated, in illustration of these wounds. A lady, from St. Louis, received such an injury from a lancet, in being bled, from which there resulted "an alarming affection of the arm, head, chest and spine."

In another case, a lacerated finger, amputation was resorted to after much tedious suffering. The operation was not followed by relief, and "it became necessary for the gentleman to use a considerable amount of evacuant medicine, to relieve himself from the effects of morbid secretion." Would not the same treatment have accomplished the end without a resort to amputation?

The third case was that of "a gentlemen who was bitten on the hand and wrist, by a dog." It was only after months that blisters, severe regimen, and evacuants "subdued the pains so far as to rely upon the efforts of nature to restore his health."

The material, of which the gun-cap is composed, is more unfriendly to a wounded surface than a leaden ball, and the Professor declares that wounds inflicted by their explosion, "may be classed among the most critical of those which are of similar extent and locality, the product of fire-arms." Two cases are alluded to, in each of which, a small piece of the cap passed through the cornea and lodged on the anterior surface of the iris. In both cases the wound of the cornea healed by the first intention, but it was indispensable to the preservation of

the eye, to remove the foreign substance by an operation similar to that for cataract.

To illustrate Prof. D.'s practice in gun-shot wounds, involving fracture of the bone, the following cases are given.

Case 8. A rifle ball "carried away the major part of the magnum, and lodged deep among the muscles of the thigh. After removing isolated fragments of bone, the usual dressings were applied. On the tenth day "the interior wound was occupied by organized matter," and on "the removal of the second dressing, a cicatrix covered each orifice." The wound in the thigh was found healed on the removal of the first dressing.

Case 9. "A gentleman received a pistol shot, which shattered the humerus a little above the elbow and separated its condyles from each other." The fractured bone having been properly adjusted, compresses and the roller were put in requisition in the usual manner, "and at the expiration of a month the use of the arm was restored."

The Professor remarks: "the intelligent of the profession are doubtless surprized that, in this case, splints and machinery to control muscular contraction and prevent deformity, should be overlooked." We doubt not our author is correct, for while every surgeon seeks to adjust the bandage to such wounds with as much nicety as possible, prudence would dictate the additional security guaranteed by properly adjusted splints. We tried the practice of relying alone on the bandage, but were finally compelled, under the guidance of experience, to withdrew a portion of the confidence we had been taught to repose in the bandage alone, in such cases.

Case 10. A rifle ball, of large size, "entered the scalp on the anterior and lateral portion of the head, of the right side, and fractured the parietal bone. Fragments of bone were removed, and the wound dressed with com-

press and roller, and healed by the first intention." A few months after recovery he became the subject of epilepsy. A free incision was made through the scalp, "the dura mater, with the interior membranes was opened to the extent of two inches, when, by the aid of forceps, a fragment of bone, one inch long, by half that width, was drawn from deep within the substance of the middle lobe of the cerebrum." The wound healed by the first intention, and there was no return of the epilepsy.

In the first of the Professor's essays he remarks:

"The very common practice of amputating limbs, because of compound fracture by gun-shot wounds, will be suspended when the bandage is properly appreciated. In several cases within my own practice, I have reduced them to the condition of a simple fracture, and have thus managed them with the same facility as in other instances where similar violence has been done in a different way."

Now, we do not believe the practice here spoken of to be common, while we know the bandage was properly appreciated in such cases, and the practice inculcated by the Professor was pursued long before he either adopted or taught it.

In 1707, Heister* met at Brussels several soldiers who had been severely wounded in the bloody action of 1704, near Shellenberg, in Bavaria, and notwithstanding there were compound fractures, and some deeply affecting the joints, every means had been tried to effect a cure, and these efforts were persevered in for a period of three years, before a resort was had to amputation.

The same author gives particular directions for dressing such wounds, not differing materially from the practice pursued by Professor Dudley. "When the wound is first dilated, cleansed, and freed from the splinters of the bone, and other heterogeneous bodies, particularly in

*Cases, p. 40.

the upper arm, the shattered bones are again glued together, as in simple fractures, the wound being dressed with lint and vulnerary ointments, and, lastly, with the vulnerary balsam, and a plaster laid over all, but not for both ends to meet, and compresses laid longitudinally round the fractured part, with proper splints and bandage as in common fractures."*

J. Bell gives directions for dressing such wounds without amputation.† He declares that "a limb having the great bones broken, by a musket ball piercing the limb, may be saved." He advises immediate amputation only when the limb is so crushed that an attempt to save it would endanger life, and when, if saved, it would be distorted, and rather an encumbrance than a help.‡

Liston takes a correct view of this matter. He says: "He [the surgeon] must not proceed with his knife when there exists even a slight chance of preserving the limb,"§

M. Jobert has succeeded in saving limbs, after amputation had been proposed, under the following circumstances:

1. Penetrating wounds; with fracture of the elbow-joint.

2. Comminuted fracture of the head of the humerus, without destruction of the soft parts.

3. Fractures of the wrist and hand.

4. Comminuted fractures of the thigh, without disorganization of the soft parts.

5. Penetrating wounds of the knee-joint, with or without fracture.

6. Comminuted fracture of the leg, when the soft parts are not too much torn, bruised, or destroyed, notwith-

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*Cases, p. 62.
†On Wounds, 1807, vol i., p. 156.
‡On Wounds, vol. 2, pp. 174, 175.
§Elements of Surgery, p. 182.

standing there may be several wounds and fragments of bone.*

The Professor declares that he has "long since been convinced of the error propagated in the profession, regarding the peculiarity these gun-shot wounds." In regard to their distinctive character, there does not appear to be much, if any, disagreement between Prof. Dudley and other authors. Since the time of Paré, gun-shot wounds have not been regarded as differing from other wounds, "except in the degree of violence done the wounded surfaces."

Heister declares that they differ from incised wounds in as much as the parts are "more shattered and torn.†"

Hennen's definition is alike comprehensive and accurate: "A gun-shot injury is a violent contusion, with or without solution of continuity, suddenly and rapidly effected by a solid body projected from firearms; and nothing more."‡

The Surgical Lectures of Sir A. Cooper are said to have excited the highest degree of admiration by "the rich tissue of authentic facts and legitimate deductions which spread itself over every page in the work, unsullied by any predominating theory or hypothesis which, like a vapory atmosphere, distorts every object seen through it." We regret that we do not feel authorised to pronounce the same eulogy on the essay before us—the facts are doubtless authentic, and they are either extraordinary or common-place, but they are not sufficiently numerous or varied, nor of a character to serve as a secure basis for an exclusive practice applicable to gun-shot wounds under all circumstances! The bandage theory every where sheds a hazy atmosphere, that will not

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*Bulletin de l'Académie, tom. xiv., pp. 64, etc.
†Gen. Sys. Sur. vol. i, p. 51.
‡Military Surgery, p. 48.

permit a clear perception of all the phases presented by this species of wounds, or allow a recognition of the multiplied accidents that do, and must inevitably, occur under any plan of treatment, and which, in the estimation of the first men of the profession, call for something more than the mere support of a bandage.

The unpracticed reader of Professor Dudley's essay will imagine that he has found, in the roller, a sovereign remedy for every variety of gun-shot wounds, from a simple abrasion of the skiu to a compound comminuted fracture of the bone, etc.; but we ask our readers to turn again to the cases reported, and give them a careful examination, when they will be satisfied that they are either selected cases, or that Professor D. has been wonderfully fortunate in meeting only with such as were most favorable to adhesive inflammation. In every case the ball passed out or was readily removed, and with it all foreign substances which might, and probably would, have occasioned suppurative action.

He who goes forth among diseased actions, relying alone on the practical views, inculcated in the paper before us, is doomed to sad disappointment, and cannot but be wofully at a loss for information, not to be found in this "full record" of the Professor's experience. Where is the instruction in regard to those cases where debridment is required? In what manner is the examination to be conducted? What cases require immediate amputation? Should gangrene occur what treatment is demanded? At what point shall the tonic supplant the antiphlogistic treatment? What is to be done in cases of superabundant, deficient, or unhealthy suppuration? For consecutive abscess, marasmus, colliquative diarrhea, etc.? The essay is in fact defective in information in regard to all the consecutive phenomena, accidents and complications which, in spite of the best directed efforts of the surgeon, so frequently supervene in gun-shot wounds.

These injuries are to be treated on rational principles, and there are none that require the exercise of a sounder judgment; the bandage is indeed a valuable remedy; but, if applied to every case, and wholly relied upon in all, it will be converted from a blessing into a curse. Gun-shot wounds present a variety of phases; there are none in which more violence is done, or in which complication is more common, and the experience of the ablest and most indefatigable observers has demonstrated the absolute necessity for a corresponding modification of treatment: at one time, depleting; at another, tonic; at another, soothing; if the wound be irritable, stimulating; if inert, gently escharotic; if the granulations be too exuberant, the appropriate means must be addressed to that condition. Possibly it may be said that we have no right to dictate how far the author shall go in communicating his professional views; certainly we have not, nor should we lay so much stress on the very imperfect account Professor Dudley has given of this class of wounds, but for the purpose of cautioning the young reader that there is much to be learnt in relation to gun-shot injuries, besides what is found in this essay.

In the first announcement of these essays we were told they were to "present a full record" of the Professor's extensive experience, but the subsequent qualification prepared us for a mere abridgement of his views, but certainly did not lead us to anticipate the total omission of many of the most common and important features of the wounds of which he undertakes to tread. It is to be presumed that the Professor has met with cases of gun-shot wounds where foreign substances were retained in the wound, and where accident, complicated and rendered difficult their management, and to complete the record of his experience, some account of these cases and the results of his treatment were necessary. To base a general practice on these few and peculiar cases, would violate one of the

soundest principles of medical logic, so clearly stated by Sir G. Blane: "It is only by computation, founded upon large averages, that truth can be ascertained, and hence the danger of founding a general practice on the experience of a single case or a few cases." In the Professor's first essay a few "cases are given by way of contrasting the effects of the ordinary treatment with those of the bandage." We are not informed in what this "ordinary treatment" consisted, but, aside from this, how unfair is the comparison? In these cases the balls, and probably other foreign substances, were retained in the wounds, while in all the cases given to illustrate the superior efficacy of the bandage, the wounds were entirely freed from all such causes of irritation. It is assuredly unfair, and especially averse to the spirit of medical philosophy at this day, to contrast the results of different treatment, unless there be a striking similarity in the cases submitted to the test. It would be quite as fair to select only the cases that have run into suppuration under the influence of the bandage and adduce them to establish the inutility of that valuable remedy. There is not a remedial agent at the command of the profession that might not be banished from use by the same flimsy argument. The truth is, there should be no selection of cases on either side, no contrasts between extremes; let the failures be reported with the more fortunate results, and the profession will be able to arrive at a correct conclusion in regard to the value of different modes of treatment.

In allusion to these unfortunate cases the Professor remarks there can be very little question but that they "were susceptible of cure in a few days by the bandage, "yet he immediately afterwards admits that two of the three cases "were constitutional in the origin of most of their symptoms, after the first effects of the wound subsided. Now how the bandage could have obviated these symptoms, of constitutional origin, we cannot perceive;

and highly as we estimate the remedy, in its legitimate sphere, we do not believe that it possesses any such wonderful power. Our author himself admits, in the same article that "partial suppuration supervened in these cases," how then are we reasonably to expect the bandage to effect "a cure in a few days."

There are two errors, the one or the other of which has displayed itself conspicuously in every age of medical science, viz.: first, a disposition to confound many conditions of the system totally and radically different, and thereby to limit the curative resources of the profession to a few simple agents, under all forms of disease. The second error is equally objectionable, as it runs to the opposite extreme, and consists in a species of refinement that engenders shades of complexity in all things, and divides the treatment of disease into an endless variety of means, compared with which the written signs of the Chinese language are simplicity itself. In a practical point of view, our author and some of the ancients occupy the two extremes. We verily believe that the former has applied the bandage, calomel, and tartar, to more purposes, and varied conditions, and probably effected more with these simple agents, than any person who now lives, or who has heretofore recorded his experience; at the same time, we doubt not, he would have accomplished infinitely more, if he had been unshackled by self-imposed restrictions that were unnecessary. The prominent errors alluded to above, naturally lead to the same practical result. While the refined systems were well calculated to introduce inextracable confusion, and to cast so many difficulties in the path-way of truth, that the inquirer, however ardent his temperament, was not unfrequently discouraged and driven from the prosecution of a study which appeared to him to be too complex to be comprehended or useful; the other system, in its simplicity, tends to repress observation, and to limit the laborious effort of

searching into the hidden and often almost inappreciable differences of morbid phenomena, that must in the nature of things demand a corresponding modification of treatment.

In medicine and surgery, as in all the practical affairs of life, those who occupy a just medium between the two errors are in the right path—while they investigate as minutely as possible all the varied forms of disease submitted to their observation, they abjure excessive, speculative, and impracticable refinement, and are ever ready to assign to each remedy its appropriate place without the deification of any particular one. C.

Art. VII.—*A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition.* By P. Cazeaux, Adjunct Professor in the Faculty of Medicine of Paris, etc., etc. (Adopted by the Royal Council of Public Instruction.) Translated from the second French edition, with occasional notes and a copious index, by Robert P. Thomas, M. D. With one hundred and seventeen illustrations. Philadelphia: Lindsay and Blakiston., 1850.

Of the making of books there seems to be no end. Solomon complained of this tendency as one of the fixed facts of his day, when the mode of reproduction bore about the same relation to that of the present, that the movements of the ox do to the facilities of the magnetic telegraph. But there are consolations for the great extension of the business. Abernethy consoled himself for the immense increase of physicians in his day with the fact, that though physicians had greatly increased, diseases had increased in an equal ratio. Readers too have increased in a fair ratio with the increase of authors.

It is somewhat strange that upon a single department of practical medicine, that of obstetrics, a department consisting of many facts, and of a few principles, there

should be such an endless variety of books. The literature of obstetrics is as prolific as though its exclusive province were to bring forth books, and we have every conceivable variety of presentation, monstrosities, malformations, abnormal as well as normal works, and not a few that show indubitable marks of having passed through minds of very small pelvic capacity.

We do earnestly wish that some one, well qualified for the work, would undertake to compress all the essential and valuable matters in obstetrics, contained in a world of books, into one readable volume. A more acceptable service to the accoucheur could scarcely be performed, and it would be, in every point of view a most practicable enterprise. The various works which command the attention and confidence of the profession have an immense deal of detail that is common to the whole class, and each authoritative work claims public regard on account of some excellence in comparatively confined particulars. Now we hold it to be a very practicable thing to take what is common, mere routine detail, in such works as those of Francis Ramsbotham, Baudalocque, Velpeau, Rigby, Collins, Churchill, Cazeaux, and as many others as any one may choose to consult, and array, in their proper places, the peculiar excellencies of each, and compress them into one tangible, manageable bale of reading matter. Commerce would be in a confused perplexity with bags of cotton, but the hydraulic press has removed all that kind of trouble. A discriminating medical mind, of hydraulic power, would confer no ordinary benefits upon medical readers by an effort at the compression of obstetrical literature. It would be something of value to be able to find promptly, all the recorded facts observed by obstetricians, and all the essential principles of the practice of obstetricity, in a portable form. The importance of this may be, in some degree, appreciated by reference to the subject of Dr. Hewett's interesting paper in the

present number. In the case detailed in that paper, we have a malformation which, under almost all conceivable circumstances, must produce a fatal issue, after parturition. Yet, with the exception of Churchill, scarcely any popular author on obstetrics, even refers to such a case. It may be said that this proves the extreme rarity of this malformation, and while we admit the fact, we point to the rarity as a powerful reason why obstetrical teaching should warn practitioners against this danger. It is not the bold, jutting headland, the frowning cliff, nor the prominent reef that places the vessel in danger; the sunken, unknown rock, "not laid down in any chart," is the perilous one.

We give this merely as an illustration—examples might easily be multiplied to show the necessity of having every important particular, connected with obstetrics, gathered together in one volume, of easy access. There is no good reason why the excellencies of twenty good authors should be spread through twenty volumes, while it would be a possible thing to arrange them all in one.

These remarks are called forth by the necessities of the case, not in any spirit of fault-finding with the book before us. We, indeed, selected the occasion of having a work of the sterling excellence of this, for making the suggestions in the foregoing remarks. We preferred doing so over the work of Cazeaux rather than over such as may be easily found—those that are far inferior to it. In the multitudinous collection of works devoted to the propagation of human beings, and to the details of parturition, none, in our estimation bears any comparison to the work of Cazeaux in its entire perfectness, and if we were called upon to rely alone on one work upon accouchment, our choice would fall upon the book before us, without any kind of hesitation.

In all that constitutes a medical book of authority, in all that may aid inexperienced persons in perilous circum-

stances, in all that arms and equips an accoucheur for the performance of all his duties, we know of nothing superior to this work. The universal design of the author is to make himself a reliable pilot in every possible contingency, and his principles are uttered in the most lucid terms, and impressed in the most cogent manner. Take for instance his adoption of Nægèle's beautiful and all-sufficient simplification of Baudelocque's Chinese puzzle—the presentations. In Baudelocque's classification, we have one hundred and two distinct presentations enumerated; in the work before us this tangled web is reduced to thirty positions, and while the mind grasps these with ease, it is left free to gather other information, instead of cramming every chamber of memory with the refining of Baudalocque's presentations. This is but a solitary example of an excellence that reigns in every department of the work.

The original edition of this work has long been known to the profession, and wherever known has been highly prized. To those who are not familiar with its merits, we commend its invaluable chapters on embryology, a department of science in which the labors of Wagner, Kollicker, Leuckardt, Valentin, and Bischoff have effected a revolution quite equal to that made in electro-magnetism by the labors of Œrsted and the two Ampères. In our early medical studies, the philosophy of Generation bore no indistinct resemblance to Washington Irving's Ichabod Crane. It was loose, gangling, and perpetually ludicrous. Leuenhoeck's microscopic observations, looked upon then very much as Munchausen's works are by half grown men; Spallanzani's experiments with frogs, and Haighton's with rabbits, constituted the villages of the domain of the science; the country roads were travelled on the back of an animal that often fell by reason of the grievous loads it was made to carry—loads of such enormous burden, that one would suppose any beast of bur-

den would have died under them, even if it had possessed a much larger share of vitality than our carrier ever did. The "ship of this medical desert," to which we allude, was named SYMPATHY. We were once in the habit of loading the animal ourself, and often wondered then, at a time when we *suspected* it of some vital power, how it moved under its loads. It has strayed away from medical science, and has ceased to be a carrier among philosophers. It was very patient and expansible, and is supposed to be in active employment among Mesmerizers, biologists, and fortune tellers. It feeds upon such provender, as those things furnish, with great greediness, but starves to death under the eye of observation, and the accumulation of truth. The labors of such men as Wagner, Leuckardt, and Bischoff were very fatal to the life of SYMPATHY, and under their assaults it made a seasonable retreat, and will never again be used by medical riders.

In traveling over the pleasant fields that have grown luxuriant crops in the last few years, we are often compelled to pause, and ask how such nonsensical stuff as sympathy ever retained its dominion over a well-informed mind, even for the space of a day. To those who love medical philosophy for its own sake, who delight to see truth springing up in its vigor and power, and who rejoice in the progress of medical science, we commend the subject of Generation, under the lucid pen of Cazeaux. We know of no more healthful recreation for a good mind than such reading.

It is difficult to single out points of excellence in a book like this, where all is of the highest quality, but we cannot refrain from impressing on the mind of our readers, on all suitable occasions, the admonitions contained in the following remarks of the American translator of this book He says: "The valuable experience derived from his [Cazeaux's] hospital practice, has clearly shown that the

unaided powers of nature are quite sufficient to effect the expulsion of the child, in a vast number of those cases which have heretofore been considered as absolutely requiring the intervention of art; and his detailed observations, in the fourth part, on the subject of difficult labors, will afford another, and, I trust, a convincing proof of the truth of the maxim, that MEDDLESOME MIDWIFERY IS BAD." In this salutary hope we cheerfully join. We have an inexpressible horror of the use of instruments in midwifery, and feel more than an ordinary share of thankfulness in the fact, that, in a long practice of the art, we have never yet been compelled to resort to instruments—thus far, it has been our good fortune to succeed by an unfaltering faith in the powers of nature. The lessons of Cazeaux are confirmatory of our own observations, and to those who are inexperienced in obstetrical art, we commend the author of this work as one of the safest guides in the use of instruments that can be found.

The original work of M. Cazeaux was published in France upwards of ten years ago, and such were its merits, that in 1841, it was adopted by the ROYAL COUNCIL OF PUBLIC INSTRUCTION. Since that time a second edition has been published in France, and this occasion was seized upon by the author to enlarge the work. It was remodelled throughout, so that the second edition contains one-third more matter than the original one, and has a large addition of plates, illustrating the mechanism of labor, and "of the varions phenomena exhibited by the human ovule in its successive transformations." The work may now be regarded as an authoritative exhibition of the principles of obstetrical science, as taught and practiced in France at this time.

The translator, Dr. R. P. Thomas, deserves credit for the labor he has bestowed on this American edition. He has performed his duties in a very creditable style, and is entitled to the thanks of those who do not read French,

for having enabled Cazeaux to address himself almost as well to American readers, as though the work had been written in the English language. We have met with but few translations that conveyed the spirit of the original with more complete success.

The publishers, too, have discharged their duties creditably. The illustrations are generally good, and the mechanical execution of the work is respectable.

We are indebted to Beckwith & Morton for our copy of this book.

ART. VIII.—*The Annual of Scientific Discovery; or Year Book of Facts in Science and Art*—Exhibiting the most important discoveries and improvements in mechanics, useful arts, natural philosophy, chemistry, astronomy, meteorology, zoology, botany, mineralogy, geology, geography, antiquities. Together with a list of recent scientific publications; a classified list of patents; obituaries of eminent scientific men; an index of important papers in scientific journals, reports, etc. Edited by DAVID WELLS, of the Lawrence Scientific School, Cambridge, and GEORGE BLISS, Jr.

We regret that this valuable work was not received in time for an extended notice in this number. It is a repository of knowledge, of the most useful character, and should command a very extensive patronage. Since we have seen it, we wonder that such a publication should not have been commenced years ago.

We have only space, now, sufficient to announce the publication of this valuable work, and to say that it presents the best dollar's worth of reading that we know of.

The work consists of 392 pages, and the publishers, Gould, Kendall and Lincoln, of Boston, proffer to send it, free of postage, to any one who remits them one dollar.

THE WESTERN JOURNAL.

THIRD SERIES.—VOL. V.—No. IV.

LOUISVILLE, APRIL 1, 1850.

POSTPONED ITEMS.

We regret that several editorial articles have been crowded out of this number. Among them are notices of Professor Bigelow's lecture, and Dr. Dowler's recent researches on the subject of death.

THE POSITION OF THE MEDICAL PROFESSION IN SOCIETY.

This is the subject of the introductory lecture of Prof. Paul F. Eve to his class at the opening of the last session of the Medical College of Georgia, and full justice has the able and experienced teacher done to his interesting subject. Prof. Eve points with as much feeling as judgment to the causes which have prevented the medical profession from attaining its merited position and influence in society. The argument of his lecture is excellent, and its spirit and aim are worthy of all praise. It may be long before medicine triumphs over all the evils that environ it, and takes its proper rank among the high callings of men, but every such effort as this of the great Georgia surgeon must hasten the day of its triumph

SANITARY REFORM.

The devastations of cholera in England have been useful, in turning the attention of men to the causes of disease, and to the means of re moving them. We should be pleased to see a similar spirit of investigation and improvement aroused in this country, and we earnestly call the attention of our medical brethren to the subject. There are few objects on which they can more profitably spend their exertions, and there are none likely to be fraught with more useful results. The labors of the sanitary boards in England have shown a most frightful condition in the habitations of the poor, and in municipal regulations. In surveying this development, instead of feeling surprize at the extent of the ravages of typhus and typhoid fever, and of cholera, in particular localities, we are only surprised that any one, in the infected districts, should have survived. But while contemplating the baleful influences that ravage the lives of men, there is consolation in the fact, that preventive services can be efficiently rendered. These are the services which humanity has a right to demand of physicians, and to the honor of our profession, it should be said that its members have shown themselves ready at all times to remove the causes of disease.

The Edinburgh Review, for January, 1850, says: "In England alone, the average annual number of deaths from disease is, in round numbers, 300,000,—while that of deaths from the mere decay and exhaustion of the human frame, by the progress of time, is only 35,000. In the difference between these two numbers we see the vast and vital field in which the sanitary reformer proposes to work. That disease shall ever be entirely exterminated, is of course beyond the belief or hope of the most sanguine: but every disease has somewhere its specific and efficient cause—and that these causes can be removed, or much weakened in their action, in very many instances, is not only within the bounds of hope, but has been satisfactorily proved."

In reference to sanitary improvements, in vogue at present, the Edinburgh Review says:

"Their object is not the vain one of indefinitely protracting existence by human art. It seems, indeed, a remarkable fact, whence something has yet, we think, to be learned, that wherever the average length o. li e is improved, there is a tendency to equality; and that the miraculously long livers appear chiefly where the average vitality is shortest, and where men subject to noxious agencies present in general the most at

tenuated and degraded physical condition,—as if it were an exceptional law of nature, that those whose frames can, for a certain time, resist these deadly influences, become, 'like him who fed on poisons,' hardened against the common causes of mortality. Nor, were we to suppose it in the power of art materially to enlarge the allotted span of healthy existence, and to make extreme old age the common lot, instead of the rare privilage of a few,—must we necessarily suppose the boon accompanied by a great increase of human happiness. Treatises *de senectute* have more than one aspect. In the general case, when a green old age has been reached, the task of life may be considered to have been performed, and its enjoyments substantially exhausted; the journey has been completed, and the tired body may part with the spirit in peace, leaving the arena of life to new competitors, The associations with which survivors surround the memory of their aged relatives are accordingly more tender than bitter. And such deaths, it is felt, do not so much make a chasm in existence as a natural change, consonant with the decay and reproduction which are the routine of the world's progress. Young hands are strengthening their grasp to lead us forward in our journey through life, as the elder race waxes feeble and drops away. It is when the opening bud is blighted, or life is cut off in the full bloom of usefulness,—in the midst of happiness, affection, and esteem,—that the great calamities of mortality are exhibited. Such are the desolate spots of human existence, standing in the centre of its healthy fruition, waste and arid—showing happy aims defeated, and its joys engulphed in unfathomable sorrows. The science that promises in some measure to mitigate the horrors of this howling wilderness, is surely an object before which sarcasm and faction and selfishness may well be dumb."

These are certainly high and ennobling considerations, and if they are not worthy the attention of medical men, we should be at a loss to imagine anything that can be.

A national association of physicians has been formed in this country, which bids fair to be productive of a large amount of good. At the last meeting of this association, a large amount of information on sanitary subjects was gathered, and we hope that there will be an annual increase of valuable knowledge on these important points.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

MAY, 1850.

ART. 1.—*The History, Diagnosis and Treatment of Fibrinous Coagula of the Heart.* By DAVID W. YANDELL, M. D., of Louisville, Ky., Attending Physician for the Faculty at the Louisville Marine Hospital.

ARTICLE I.—INTRODUCTORY.

The disease of which this memoir gives an account is much less generally understood than any of the other diseases to which the heart is subject. Recent pathological discoveries have revealed it to be of much more common occurrence than has hitherto been believed. While the pathology of this disease is definitely and satisfactorily understood, its causes, diagnosis, and particularly it treatment, are still involved in doubt and uncertainty.—

There is no full and complete history of it in the English language. It will be my object to supply, as far as is in my power, this deficiency, and "to furnish," so far as may be possible, "such knowledge of this disease as is essential to its successful treatment. This knowledge ought at all times to be ready for use and application. The necessity for this use and application, whenever it occurs, is immediate, urgent, and pressing; it admits of no delay; there is no time for deliberate inquiry and consultation. The physician, in many, perhaps in most cases, is obliged to act upon his own single responsibility; it is his duty to be fully prepared, in advance of the emergency, to act promptly and aright."

ARTICLE II.—Lesions.

Preliminary.—I shall assume that the researches of Testa, Burns, Laennec, Corvisart, Bouillaud, Kreysig, Andral, Hope, Hasse, and other pathologists have established the fact, that there are some fibrinous coagula formed within the heart, during and after dissolution, and others formed for a longer or shorter period anterior to it, presenting various degrees of organization, and they are the cause of several well marked symptoms during life.

Long before any definite ideas of the true nature of the concretions in question were entertained, it was known that they were of more frequent occurrence in the right than in the left side of the heart. M. Bouillaud asserts that they are also more frequent in the auricles than in the ventricles. The principal cause of this difference is, that the blood is more easily retarded and rendered stagnant in the right cavities, and that it is in them especially that it accumulates during the last period of life, and after death. Bouillaud believes that other causes also may explain the circumstance: such as the frequency of phlebitis, which is sometimes propagated into the right cavities; perhaps, a more marked tendency to coagula-

tion in the venous, than in the arterial blood, &c., (Traité ii., p. 711, ed. 1841.)

Anatomical characters.—Hasse acknowledges two types of the blood coagula, the *unorganized*, and *more completely organized*, the distinctions between which are essential and obvious; there are, however, he remarks, so many transition forms, that it is often extremely difficult to come to a definite conclusion.* I believe, however, with Dr. Hope, that there is a third variety, which is possessed of equally distinctive anatomical differences, and which I shall include under the name of "*slightly organized polypi*," being the term given to it by that distinguished author. (Hope. Diseases of the Heart, p. 483. American edition.)

I. *Unorganized Polypi.*—Polypi formed after death, or during the last moments of life, are concretions of fibrin, identical with the simple fibrinous clot, so common in robust individuals. They are of a smooth, shining surface, yellow, pellucid, of the elasticity of jelly—particularly in dropsical subjects, or when the blood is very serous, and are "fashioned to the shape of the heart's cavities, especially at the origin of the pulmonary artery, where they often appear moulded with a faint impression of the valves. The gelatino-fibrous mass occasionally covers a clot of coagulable blood, in the same proportion as the buffy coat, the crassamentum in blood drawn from a vein; it, however, frequently constitutes the bulk of the concrement, and contains only a few portions striated or dotted with blood red, (Hasse.) Polypi of this description are more common and of greater volume on the right side of the heart, than on the left, are often found "proceeding, with flattened ends, into the large vessels," and

*The microscopic and chemical relations of coagulated fibrin will be found described in Henle's Annual Report, in Henle & Pleuffer's Journal, 1843, p. 168.

present no trace of internal organization and structural arrangement. The amount of these concretions is variable. They seldom, however, fill the cavities, and never adhere to their parietes. Bouillaud, it is true, has reported cases where the coagula in the different cavities of the heart amounted to twelve ounces, but it is necessary to state that a large proportion of them were formed after death. These characters are, in the opinion of Dr. Hope, sufficient to distinguish them from polypi formed sometime previous to death.

II. *Slightly Organized Polypi.*—It is a well known fact, that fibrin separated from the blood and become concrete in a living organ, preserves its vitality and is susceptible of organization in an equal degree with inflammatory lymph.

Polypi formed sometime before death, in which this organization has commenced, are of a much firmer consistence; more opaque, and less charged with serum; their fibrous texture is more distinct; they are often arranged in concentric layers; their color, instead of being uniformly whitish or yellowish, has, in parts, a pale flesh tint, sometimes slightly violet, from incipient vascularity; they are found more frequently on the left side of the heart than recent polypi are; and they adhere more or less firmly to the walls of the heart, from which it is scarcely possible to draw them away in a single piece, as the extremities remain attached under the columnæ carneæ.—The medium of adhesion is often a filamentous tissue, the rupture of which leaves a roughness both on the lining membrane of the heart and on the surface of the polypus. The surface also presents spots of blood penetrating more or less deeply, and sometimes ramifying inwards, as if to form vessels for the purpose of organizing the mass. Some of these polypi contain pus in the center; sometimes pure, at others, curdy or sanious—precisely what we so commonly see within coagula formed

by phlebitis.* (Hope on Diseases of the Heart, p. 483, and Hope's Morbid Anatomy, figs., 204 and 240.)

Dr. Hope considers the *globular vegetations* of M. Laennec, mere varieties of these suppurating polypous concretions. "They present themselves under the form of irregularly spheroid or ovoid balls or cysts, the size of which varies from that of a pea to that of a pigeon's egg. The cysts are smooth externally; and their walls, which scarcely exceed half a line in thickness, are composed of an organized substance somewhat firmer than the white of a hard-boiled egg, and resembling in opacity the oldest polypous concretions. The internal surface of the cyst is less smooth than its exterior, and appears formed of a softer substance, which sometimes gradually degenerates, in the direction from without to within, into a matter similar to the contents of the cyst. These contents, in the cysts which there is reason to believe the most recent, are bloody; in the older, they are like lees of wine,

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*Many writers, and especially M. Legroux, think this pus a product of inflammation of the concretion which contains it. "An inflammatory movement," says M. Legroux, "shows itself in the concretion. * * * * * * It softens in the centre, becomes granulated, passes to the sanious, then to the purulent state: subsequently, the pus is absorbed, and there only remain the exterior layers of the concretion, which have resisted the softening, and which form the walls of the abscess or the cyst. (Legroux. Inaugural Dissertation, p. 35.) Dr. Hope is of the same opinion. Bouillaud, on the other hand, holds the following language on this point: "I think that such is not the ordinary origin of the pus which is found in concretions; this *product* appears to me to have been either secreted in the cavity of the heart, or to have been transported thither by absorption, and then to have occasioned the formation of a coagulum which has entirely enveloped it. At the period when pus in the center of a concretion is most frequently met with, the concretion offers scarcely the rudiments of organization, and one can hardly conceive how, in this stage, it could undergo an inflammation characterized by purulent secretion. I do not pretend to say, however, that when once well organized, sanguineous concretions may not inflame and suppurate. Nevertheless, this is not, if I do not mistake, a very common occurrence, (Traité, II, p. 610, edition 1841.

and in the oldest, they are puriform. The cyst adheres by a pedicle, which, according to M. Laennec, is of more recent formation than the cyst itself, being more translucent, and in a less advanced state of organization. The pedicle is interlaced among the columnæ carneæ, and united more or less firmly with the internal membrane.—The most common situation of these bodies, and where I have frequently found them, is about the apex of the ventricles. I am not aware that they are ever found in the great vessels; I have never seen them there," (Hope, p. 481.)

III. *More completely organized Polypi.*—When the polypi are in a more advanced state of organization they adhere by a true cellular tissue to the parts with which they are in contact, (Bouillaud.) They may be dated as far back as several months prior to the death of the patient, * * * * are completely opaque, like paste or cheese, exactly resemble the oldest fibrinous layers of false aneurisms, and adhere so firmly to the walls of the heart, that they cannot be detached without scraping with the scalpel, and sometimes not without removing the internal membrane, (Hope.) Engrafted thus, upon the living tissues, vessels shoot through them, they harden and assume a striking resemblance to certain fibrous polypi, to fungous tumors or vegetations, (Bouillaud.)*

*Concerning the connexion which exists between fibrinous coagula and the origin of certain lesions of the valves of the heart, (the adhesion of their angles and tendons with each other,) MM. Bouillaud and Legroux entertain the same opinion. M. Legroux has frequently seen fibrinous concretions interlaced with the tendons of the valves, in such a manner that these no longer formed a simple curtain, (the division into tendons not taking place until near the columnæ carneæ.) He also has no doubt that these concretions are the principal means of the union of the tendons, in cases where the lengthened valves no longer form a simple opening but a canal of greater or less size, (Legroux, op. cit., p. 55.) Both these writers further believe that in order for these concretions to contract intimate and firm adhesions with the valves on which they are deposited, it is necessary that they be formed under the influ-

Polypi, at their several degrees of organization, may undergo various changes. Some of them have been already mentioned. Bouillaud, in the Journal Complimentaire du Dictionnaire des Sciences Medicales, details a case wherein the concretion had been converted into a substance which bore a strong resemblance to encephaloid. M. Velpeau and others have since published similar cases. M. Dupuytren also met with examples of this kind.—He asserts "that the pretended carcinoma of the blood is but puriform matter developed by animal heat in the concretions." M. Bouillaud believes that polypi of "recent formation and small volume may be dissolved." In certain cases, also, he thinks it probable that fibrinous coagula of the heart, of small volume, are expelled into the circulation.*

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ence of inflammation; in such a case it is difficult to decide if these concretions are developed at the expense of the blood contained in the heart, or are the result of the secretion of an inflamed tissue. They both believe that the concretions which are firmly adherent, and susceptible of being transformed into vegetations, are the result of *an inflammatory secretion which adheres to the membrane at the moment of its formation*, (Bouillaud.)

* A very novel hypothesis has recently been advanced by the distinguished Professor Meigs, which relates so directly to the present division of our subject, that we cannot refrain from giving it a passing notice.

At one of the late meetings of the Philadelphia College of Physicians, it appears that Professor Miegs accounted for the removal of fibrinous concretions of the heart, and subsequently revealed the true origin of tuberculosis. With the highest respect for the talents, and greatest deference for the age of the learned gentleman, this, we think, is a work of much too great magnitude to have been despatched so summarily.

The train of reasoning by which Professor Meigs, on the occasion alluded to, arrived at this discovery (?) is quite as novel as the discovery itself. We give it *in extenso*, as an example of imaginative logic. It runs thus: Dr. M. was once present at a postmortem examination of a body in which there existed a large coagulum of blood in the right auricle of the heart; it nearly filled the cavity; the upper portion was rounded, smooth and polished; the lower portion was prolonged, and penetrated through the auriculo ventricular foramen, into the right ventricle, presenting there a ragged appearance, as though it had been gnawed by a

The fibrous, cartilaginous and cretacious transformations, which they are sometimes found to have undergone, are of very rare occurrence, and Grisolle affirms are never seen, except in cases where the concretion has depended on inflammation of the endocardium, and was accompanied by a pseudo-membranous exudation. It is needless to say that transformations of this nature may and often do become the origin of serious disease of the centre of the circulation. M. Grisolle has frequently seen adhesions of the valves, narrowing of the orifices, &c.,

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rodent, it having been evidently threshed and beaten by the cordæ tendinæ of the heart, into minute particles. [This, we have little doubt, is one of the processes by which the heart gets rid of recently formed coagula.] These small, comminuted fragments, into which a portion of the clot had been reduced, must have been carried by the torrent of blood passing from the heart, through the pulmonary artery, into the lungs, and there become arrested, when they reached the commencement of the capillaries. Here, being left in contact with the endangium, the common lining membrane of the whole arterial system, the questions suggested themselves to Dr. Meigs, what, then, becomes of them—what office do they then perform? He thus answers them: They —the fragments—may become compressed, but they cannot be driven onward by the action of the blood behind them: nor can they become either dissolved, absorbed, or decomposed; they consequently must remain, and forming special sacs, by gradually pressing out, laterally, that portion of the endangium with which they are in contact, into the adjacent cellular texture, *they become tubercles.* Years may pass by, and still find them in their quiescent state, but should inflammation occur in the lungs, from any cause, then do these arrested and encysted coagula become the cause of extensive disorganization in the surrounding tissues and of death.

We can very willingly credit the manner in which the heart overcomes, and eventually removes the obstacles opposed to its free action, in the form of coagula in its cavities or at its orifices, but that these infinitessimal portions of fibrin, no matter where arrested, whether in the capillaries of the lungs, mesentery, or brain, finally become tubercles, or have any real or natural connection with the formation of these bodies, we confess ourselves wholly at a loss to conceive. It is clear to our mind that we might, with as much reason and equal facility, establish that these "comminuted fragments" may, on sufficient provocation, be converted into any other of the malignant growths, into hydatids, biliary, renal, or urinary calculi, or, if allowed full scope, produce spasm, palsy, dysentery, prolapsus uteri, conjunctivitis, or blennorrhagia.

produced by degenerated, or, more properly, differently transformed fibrinous concretions.

ARTICLE III.—Causes and Formation of Fibrinous Coagula.

The causes which produce fibrinous concretions of the heart are *mechanical* or *vital.*

I. When fibrinous coagula result from mechanical retardation, and consequent stagnation of the blood, they occur under circumstances the most favorable to that stagnation; namely, during the last hours or days of waning life, in all diseases—especially chronic diseases which have occasioned cachexy, emaciation, extreme debility, or which have been accompanied by any considerable obstacle to the general circulation; for instance, dilatation with attenuation, softening, or great valvular disease of the heart. Under these circumstances, so retarded is the circulation, that blood will scarcely flow from veins opened by the lancet, and it is sometimes actually coagulated in them.* Dr. Hope mentions a number of cases of phthisis, in which this coagulation took place in the femoral veins, and caused edema of one or both extremities. That stagnation alone suffices to cause coagulation is a fact too familiarly known to require demonstration. We see it, out of the body, in blood drawn by the lancet; we see it exemplified within the body, by the fibrinous concretions that fill up false aneurisms; the operations for this disease, moreover, has, for its basis, the coagulation in question.† We see it in the thick and demi-concrete blood which follows venesection in the last moments of life, in the diseases of the valves and orifices of the heart, which greatly embarrass the circulation, &c.

Dr. Hope believes the adhesion of coagula from stag-

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* Hope, p. 485.

† Hope, loc. cit.

coagula evidently formed in part before death. We have also met with similar concretions in other subjects, victims to other purely inflammatory diseases," (Bouillaud.)

So striking is this disposition in the blood to coagulate in this particular form of disease—pleuro-pneumonia—that M. Bouillaud, with his characteristic confidence, lays down, as a law of pathological anatomy, "*that fibrinous concretions are constantly present in persons who die of a pure acute pleuro-pneumonia, which is well characterized, and has reached the second or third degree,* (Op. cit., p. 718.) The same author reports a case of fibrinous coagula in an individual affected with grangrene of one of the inferior extremities.

The second and third cases, in the dissertation of M. Legroux, are examples of concretions occurring in spontaneous gangrene. In the Gazette Médicale, for the 25th of December, 1832, it will be found stated that "in this form of gangrene, the blood has a peculiar tendency to coagulation throughout the whole extent of the organism." On this point we do not hazard an opinion.

From all that precedes, I think, with Laennec, that we may deduce the following conclusions:

1. The remora of the blood, in consequence of obstruction to its course, suffices in itself to produce coagulation, and to determine the formation of a coagulum of organizable fibrin. Every cause capable of occasioning this remora, particularly mechanical obstruction to the circulation, and repeated and prolonged faintings, appears to me sufficient to produce this effect.

2. The coagulation of the blood in the vessels seems to produce, in some cases, particularly in the veins, a true inflammation, accompanied by the formation of a false membrane.

3. It appears certain, that occasionally, and especially in the veins, where the circulation is slow, an inflammation of the inner coat of these, may occasion coagulation

of the blood, in the vicinity of the lymph effused by the inflammation.

4. Pus absorbed in great quantity by a vein, may in several ways affect the concretion of blood—by rendering it less liquid from simple admixture,—by coagulating it by a chemico-vital action,—and by exciting inflammation of the containing vessel, (Laennec.)

And we may add, (5thly,) a *general* inflammatory condition of the blood, may, particularly in certain acute diseases, give rise to the formation of fibrinous coagula.

ARTICLE IV.—Signs and Diagnosis of Fibrinous Coagula of the Heart.

Pasta,* Morgagni, Kerkring, and many other writers of the two last centuries, denied that it was possible for the blood to become concrete during life, and consequently affirmed that it was incorrect to attribute to this cause any appreciable symptoms whatever. Others, again, attributed to concretions of the heart a number of lesions both of the circulation and respiration, which have since been determined to depend on other and organic disease of this organ. We are told that J. J. Rousseau repaired to Montpelier to be treated for polypus of the heart, a journey, as M. Bouillaud observes, which the illustrious melancholic could not possibly have performed on foot, had he been really laboring under the disease, the idea of which so deeply troubled his ardent imagination.

I. Fibrinous coagula, of small volume, offering no obstacle either to the play of the valves or cardiac circulation, give rise to no perceptible functional disturbance.—Under different circumstances, they produce various symptoms—the more important of which we propose to enumerate.

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* The opinions of J. Pasta will be found contained in two letters published by his kinsman, A. Pasta, and entitled: "*De motu sanguinis postmortem et de cordis polypo in dubio revocato,*" published in 1737.

One of the earliest, most evident and necessary effects of fibrinous concretions of the heart, is to cause a greater or less obstacle to the circulation, according to their volume and situation. Dr. Hope has generally found those filling up an auricle, produce this effect in a greater degree than any others—probably, he suggests, because the auricle, from having less contractile power to expel the stagnating blood, gets more completely charged with concretions; and partly, also, because auricular-polypi usually send off prolongations or projections into the orifices, which not only impede the action of the valves, but also choke up the passage. Those concretions which distend the auricular appendage, produce no disturbance, while those which occupy one of the orifices of the heart, will give rise to all the accidents of organic narrowing. When the concretion attains sufficient size to nearly obliterate the cavities or orifices of the heart, and completely intercept the course of the blood, death rapidly supervenes in a state of suffocation or syncope.

When the coagula are of considerable volume and distend the cavities of the heart, the symptoms are those of great embarrassment in the circulation. The pulse is small, unequal, and intermittent; the face is livid; the extremities cold; in most cases, there is nausea and vomiting of all ingesta; an intolerable sense of suffocation; and extreme restlessness and distress. "Venous congestions supervene in some instances; in others, the patient loses consciousness, and sinks into coma, (Bouillaud.)

Physical Signs.—M. Legroux was the first to note that when the concretions embarrassed the play of the valves, or obstructed the orifices, the beats of the heart became dull, smothered and obscure;* and in some instances

* M. Legroux attributes the obscurity of the sounds of the heart to the accumulation of blood in the cavities of this organ, (Diss. cit., p. 40.) M. Bouillaud thinks otherwise. "The obscurity of the sounds proceeds from the play of the valves being impeded," (Hope.)

even morbid sounds, as the *bruit de souffle*, &c., were perceived. MM. Bouillaud and Grisolle have since corroborated this, by their own researches.

"When, in a patient who, till then, had presented regular pulsations of the heart, these suddenly become so anomalous, confused, and obscure, that they can no longer be analyzed, we may suspect the formation of a polypous concretion. If the disordered action exists on one side of the heart only, we may consider the thing as almost certain. For instance, if we find the pulsations of the heart, under the sternum, confused and tumultuous, although the day before they had been regular, we may look upon the formation of a polypus in the right cavities as very probable; and the more so, if the contractions of the left ventricle, explored between the fifth and sixth ribs, are more distinct," (Laennec, p. 655.) In polypi of considerable magnitude, "the beats of the heart are irregular, tumultuous, precipitate, and the dullness of the precordial region is more complete and extensive," (Grisolle. Path. Int., p. 353.) "The diminution or the loss of sound in one or more of the cavities of the heart is a certain sign of fibrinous concretions," (Legroux. Diss. cit., p. 41.

There are a number of cases on record, in which a murmur was found to accompany the sounds. Dr. Brouc, in the Journal Hebdomadaire de Med., details a case in which the sounds of the heart were accompanied by an acute whistling murmur. Dr. Desclaux has reported a case in which there was a whining murmur in the precordial region. Dr. Hope never met with examples of this description, but admits the possibility of such a thing, if the polypus should happen to entangle a valve, while the current thorough the auricles and ventricles, remains tolerably free. Before, however, the murmur can be assumed as a sign of polypus, in a given case, it must be proved, first, that it did not previously exist, and, sec-

ond, that it is not a result of valvular tumefaction from acute endocarditis," (Hope.) While the irregularity described by Laennec and Grisolle, is a sign of polypus in cases where the action of the heart was previously regular, it does not possess the same value in cases where this previous regularity did not exist, and such cases form a large proportion of the cases in which polypus occurs, (Hope.) Should this irregularity be suddenly aggravated—become unusually "anomalous, confused and obscure"—and if, together with this aggravation, the *general signs* be taken into consideration, the diagnosis, even in these latter cases, may be almost always formed with accuracy, (Hope.)

Dr. Hope thinks polypi formed a considerable period previous to death, are not so easily detected—their deposition being more gradual. Still, if symptoms of the above kind, both physical and general, come on more rapidly than can be accounted for by the ordinary progress of the disease, or if they are such as the disease could not be supposed capable of producing, there is strong reason to suspect a polypus.* The small *globular* polypi often exist without producing any obstacle to the circulation, or any irregularity of the action of the heart.—In general, however, they are found in those who have been in a moribund state for many days, and sometimes many weeks before death.†

Diagnosis.—There is a wide difference of opinion between M. Grisolle and M. Bouillaud relative to the certainty of the diagnosis of polypous concretions. M. Grisolle‡ remarks, "that when the functional disturbances which we have enumerated, become suddenly developed in a subject who was not, at the time, suffering from disease of the heart, we should *suspect* the formation of polypous concretions in the cavities of this organ. M. Bou-

*Hope, p. 487. †Loc. cit. ‡Grisolle. Path. Int., p. 353.

illaud affirms that he was enabled to diagnosticate positively, or state as probable the existence of concretions in twelve out of fourteen cases.

In all cases of disease of the heart, whether acute or chronic, previously unattended by any great difficulty or oppression, of orthopnea and considerable disturbance in the beats of the organ, suddenly supervene, we should suspect the formation of concretions.

There is nothing positive known of the time that concretions commence forming, nor of their duration. There is every reason to believe that a large number of them are absorbed, or removed by the torrent of the circulation; while others again, continuing to increase, induce death. The opinion of Prof. Mott, on this subject, we have already given at some length, and shall not again refer to it.

ARTICLE V.—Prognosis and Treatment of Fibrinous Coagula of the Heart.

I. The prognosis of fibrinous coagula of the heart, when they are sufficiently voluminous to sensibly embarrass the circulation, is, as may be readily inferred from what we have previously said, most grave; they almost always, sooner or later, terminate in death.

When called upon to express an opinion in such cases, we must always give due consideration to the disease with which the concretions are associated, and of which they are strictly but the speaking accident. The more dangerous the disease is in itself, the less promising should be our prognosis of the concretions which are the consequence.

II. *Treatment.*—"No reliable treatment of fibrinous coagula of the heart is known," (Grisolle.) All treatment must necessarily be uncertain in a disease like this, when it is once completely developed, (Bouillaud. "The

treatment is mainly preventive," (Hope.) M. Bouillaud advocates general bloodletting, with great zeal. M. Grisolle esteems it useful. Dr. Hope thinks it dangerous.—"To prevent the formation of concretions of blood *in diseases of the heart*, whose property it is to impede the current of the blood, it is useful to employ bloodletting from time to time, and to dilute the blood, in a manner, by aqueous beverages," (Bouillaud.) "I cannot but protest against the indiscriminate, I had almost said random, manner in which M. Bouillaud advocates bloodletting for the prevention of polypus. * * * * I have seen enough of bloodletting, * * * to know that, in dilatation of the heart, in softening, and in advanced cases of valvular disease, bloodletting will not only fail to prevent polypi, but will actually induce them, * * and, moreover, will favor the supervention of dropsy, exhaust the vital powers, and hurry the case to its fatal termination. Moderate bloodletting may, indeed, be admissible, in the early stages of hypertrophy, even when complicated with valvular disease, but these are not the cases in which polypus is apt to occur," (Hope.) "Bloodletting is likewise the best means that can be employed against concretions of the heart *already formed*. It has succeeded beyond my hopes in a female admitted under my care. * * A prey to the most imminent suffocation, and offering, moreover, the physical signs of polypus, * * she has been bled three times, and is at this moment [eighteen days after] "in a satisfactory state," (Bouillaud.)

The remarks of Dr. Hope, on the treatment of polypus, are of such rare excellence, that I shall copy them almost entire:

"The best mode, according to my observation, of obviating polypus in advanced cases of organic disease of the heart, is, to keep the patient in a state of the *utmost*

possible tranquillity, and in the easiest attainable position, so that the circulation may not become embarrassed from being hurried; to avoid not only nauseants and digitalis, but any other unpalatable remedies which disgust or derange the stomach; to avoid, for the same reason, any but the most simple and digestible articles of diet, and not to introduce much into the stomach at once; for the action of the heart invariably becomes disturbed whenever the stomach is considerably distended either by food or, what is almost as bad, by flatulence, the effect of both being to prevent the descent of the diaphragm, in addition to their influence, through the medium of the nervous system. Though the administration of aqueous drinks, with the view of diminishing the coagulability of the blood by dilution, is plausible in theory, I have generally found it inadmissible in practice beyond a moderate extent, in consequence of the intolerable flatulence which it is apt to generate. Nor must it be forgotten that nature often contradicts the very principle itself; for, while the practitioner is diluting the blood, she is often doing her utmost to get rid of that dilution in the form of dropsy; and that her measures are often the wisest, no one will deny who has observed the great relief to the vascular and respiratory system, which frequently follows a considerable serous infiltration. There can be no doubt, indeed, that dropsy, under these circumstances, is a curative effort of nature.

Such are the negative means of obviating polypus; but there are others of a positive nature, to which the practitioner may resort with advantage. The general surface and especially the extremities should be kept comfortably warm, so as, by diffusing the circulation, to prevent congestion in the heart and great vessels. At the same time, cool, fresh air may be admitted to the head, as this often wonderfully alleviates the craving for breath and

consequent restlessness of the patient. On the same principle, the use of the fan is most agreeable. Of medicines, I have found those containing sp. eth. sulph. comp. and ammonia sesquicarbonas the most generally useful—probably because, as diffusible stimulants, they distribute and equalize the circulation. In circumstances of great debility, the addition of more permanent stimulants, wine or brandy, becomes indispensable. When paroxysms of congestion of the heart come on, indicated by unusually confused, irregular action of the organ, with an exceedingly small, weak, irregular pulse and suffocative dyspnea, no remedy affords so much relief as a foot bath up to the knees, at as high a temperature as the patient can bear it. If he cannot move, the same may be accomplished with much less fatigue by wringing a small blanket out of hot water, and surrounding the legs with it up to the knees, discomfort being prevented by enveloping the whole in india-rubber cloth. This may be repeated two, three, or even four times a day, if urgently required, the legs, in the intervals, being kept warm with flannel."

The preparations of soda and potass, exercising a solvent effect on the blood, M. Legroux thinks that the salts of these two bases may be used with advantage. He cites no case, however, in support of this theory. A well known effect of these substances is to render the blood florid out of the body, "and the experience of Dr. Stephens in yellow, and other typhoid fevers, and of many in this country in malignant cholera, render it highly probable that they have some corresponding, or at least salutary, effect on the blood within the vessels," (Hope.) We are acquainted with a number of physicians, of high standing, and among them we may mention that estimable gentleman and skilful practitioner, Prof. Lewis Rogers, who regard the agents in question as possessing solvent properties in a very high degree, which may be turned to good account in the treatment of those diseases in

which they are indicated. A favorite remedy with Prof. Rogers is the chlorate of potass. Dr. Stephens gives a combination of this and the carbonates of potass. and soda. I agree entirely with Dr. Hope, however, that "further observation is necessary to prove whether these remedies are calculated to obviate polypus." Still, I should not hesitate to administer them were I called to a case of threatened polypus.

I have thus attempted to draw, from different authorities, their several modes of treatment, when the case is not connected with inflammation. It will be remarked that there are between two of them, at least—Dr. Hope and M. Bouillaud—irreconcileable differences of opinion, particularly in relation to the use of the lancet. It has been our good fortune to witness, during several consecutive winters, the practice of the latter of these very eminent gentlemen, and while we must, in candor, admit that we fall very far short of entirely adopting his views of the universal applicability of the lancet to almost every variety of disease, we feel it due to him to state that we have seen, under circumstances like those which now engage us, the very happiest, and, we may almost add, astonishing effects follow free and repeated venesection. It is not our purpose, however, to discuss the merits of this question. We leave that to older and abler hands.

Before concluding our remarks, which have already greatly exceeded our original design, I wish to refer to another state in which the treatment of fibrinous coagula of the heart becomes of even greater interest than in the preceding. It is this: when the disease is associated with inflammation. When this is the case, the inflammation itself must be treated. If the inflammation be of any of the thoracic or abdominal viscera, or, indeed, of any organ or portion of the body, the treatment is to be regulated according to the intensity of the attack, the importance of the suffering organ, its relations to the disease in question, &c., &c.

I now close, with the concluding paragraph in the chapter devoted to this subject, in the treatise of Dr. Hope, to which I am so largely indebted for much contained in this memoir; "and if," says he, "the measures which have been already recommended* for pericarditis and endocarditis be adopted, I believe, according to my own observation, that polypus will be of very rare occurrence."

Louisville, Ky., April 30, 1850.

ART. II.—*The Bandage in the Treatment of Fractures, Ulcers, Gun-Shot Wounds, Hemorrhage, &c., &c.* By THEODORE S. BELL, M. D., of Louisville, Ky.

There is scarcely any class of diseased actions, that are consigned to the care of the surgeon, that receives a greater variety of treatment, than that which passes under the name of ulcers. Amidst the bewildering lights of authorities, on the method of treatment, it is difficult for the tyro to make a proper selection, and when he passes beyond the primeval stage of his surgical life, he soon, as a general rule, degenerates into the practices of the routinist. Authorities generally tell us to make special applications to the local affection, and these are usually so much in unison with the patient's ideas of the proper method of treatment that they are readily resorted to. Balsam of Peru, the terebinthinates, citric unguents, solution of sulphate of copper, fumigations of sulphur and iodine, blistering ointments, aconitum napellus, black wash, creosote, electricity, iodate of the protoxide of mercury, iodide of starch, oxide of silver, pectic acid as a poultice, periodic acid, the bromates, succon-

* These measures are sufficiently well known, to need no repetition here.

ates, mucic acid, alloxan, hydrated peroxide of iron, are a portion of the things that are extravagantly lauded in modern practice, and they constitute a wilderness of perplexity that must puzzle any one in attempting to travel through it. In the chase after these false lights, the philosophy of ulceration, and the proper treatment of the diseased actions are lost sight of.

In a former number of this Journal, an attempt was made to call the attention of the profession to the testimony of distinguished authorities in surgery, to the uses of the bandage in fractures, gun-shot wounds, and ulcers. There was, of course, no thought of setting up a claim to originality in the views advanced. In the full blaze of the lights reflected from the pages of Heister's "General System of Surgery," Underwood's "Treatise on Ulcers of the Legs," Baynton's "Descriptive Account of a New Method of Treating Old Ulcers of the Legs," Whately's "Practical Observations on the Cure of Wounds and Ulcers on the Legs, without rest," and John Bell's "Principles of Surgery," from the latter of which extended quotations were made in a former paper on the bandage, all bearing testimony to the great utility of the roller, in the treatment of the surgery indicated in these remarks, such a claim would be in the highest degree preposterous, and the man who should make it, would show such a contemptuous appreciation of the intellect of his readers, that he would be justly amenable to the scorn of the profession. No modern authority has, in my judgment, improved upon the practical views of Heister and John Bell, upon the various uses of the bandage, and the highest efforts of a reader of the works of these surgeons, must be made by enforcing their views, by calling attention to their valuable lessons, and in restoring to them their just and honest fame.

In view of these facts, and of the neglect of the authorities I have named, I quote from Mr. Critchett's lec-

tures on "Ulcers of the Lower Extremities," delivered in the London Hospital," in the summer of 1848, the fol lowing just and appropriate views:

"There exists such a plethora in medical literature, that it behooves each new commentator upon Nature's morbid operations, if he would expect to obtain any attention from his professional brethren, to accomplish one of three objects;—he must either propound new and original views, founded on legitimate induction, or he must collect the rays of light that lie scattered over the fields of pathology, and present them in a clear, concentrated and useful form; or, lastly, he must resuscitate some old principle, valuable in a practical point of view, which, from some accidental cause, has been allowed to slumber in neglect and oblivion; it is in this latter and humbler capacity that the author of these lectures breaks silence; he claims not the high honor of having discovered a new window, whereby light may be admitted into our surgical temple, but simply to have rendered transparent one that had become obscured and useless. The author's main object, then, in the publication of this little book, is to place the principle of mechanical support, in the treatment of ulcers of the lower limbs, on a correct and scientific basis; for although, as he has elsewhere endeavored to show, this has already been briefly done by the late Mr. John Scott, in his work 'On Diseased Joints,' a reference to all the best surgical authorities since that work appeared, proves how entirely that principle is still, if not unknown, at least most imperfectly expounded."

These are the sentiments I feel on the subject of the bandage, and the views by which I desire to be judged. I am aiming at "the old paths" of surgery, because I believe them to be infinitely more useful, more practical, more philosophic and successful than the most of the new ones in the modern school. I am convinced that the ancient lights of the profession are too much neglected in

the race after the "new things" of the day. In our ignorance of what the ancient observers have recorded, we are often deceived by claims of originality in things that are as old as the time of Hippocrates. A medical writer, of some celebrity, pointed out a number of instances of this kind a few years ago, and his references to the observations of Areteus, and Galen, may surprize some of our readers. The doctrine of the distinct function of the sensatory and motor nerves, over which modern physiologists are growling, and the proof of which doctrine conferred so much deserved fame on Sir Charles Bell, was alluded to by Areteus, and "distinctly and emphatically propounded by Galen." We have not space to spare for a quotation from Galen, but the doctrine is lucidly set forth by him in the ninth and fourteenth chapters of his fifth book: "De usu Partium." Philosophical Anatomy is considered quite a modern science, but Aristotle was almost as deeply imbued with it as the Meckels and Serres of our day. Cuvier labored in what he considered original investigations, but when he came to study the four books of Aristotle, "De Partibus Animalium," he was surprized and delighted to find that the comprehensive and acute mind of the Stagyrite had forestalled him in a great variety of the principal facts of philosophical anatomy.

The writer to whom I have alluded, says: "That view of life which regards it, whether in its healthy or its morbid manifestations, as a state of perpetual relation to the agents by which the living organism is surrounded, has resulted from a very advanced stage of physiological and pathological knowledge, after the successive explosion of a variety of hypotheses." Yet, this is precisely the view that was taken by Hippocrates, and we have no doubt of a fact that has been stated in connection with this subject, that Hippocrates "cultivated medicine on more enlarged

and scientific principles than most of those who call themselves medical reasoners, even in the present day."

Again: the crude condition of chemistry in the days of Hippocrates and Galen, afforded them no aid in their prelections on the fluids of the human body. They constructed a fantastic system of humoralism, which should have been improved by the lights of an advancing chemistry. But, instead of doing that, as has been correctly said, "modern inquirers ran into an extreme solidism, as false, in point of fact, as, and infinitely more absurd in reasoning than the old humoral doctrines, the insufficiency of which was demonstrated by the progress of chemical science." If, instead of running after the vagaries of solidism, with its myriad of errors, "men had been content with rectifying the humoralism of the ancients, by the facts of modern chemistry, we should, by this time, have attained to views of organic chemistry which might have been brought into very profitable relations with medicine, instead of being, as we are, on the mere threshold of the subject."

The same writer says: "Not only, then, the germs, but a pretty ample development of all those doctrines which have given the greatest impulse to medicine in our own times, are to be found in the writings of the ancients."—In view of these facts, the readers of these remarks will rejoice to learn, that the French Academy is preparing an edition of the works of the "Fathers of Medicine," and that they intend to make it, in every way, worthy of the Academy. Neither expense, time, labor, nor investigation will be spared in making a library of ancient medical literature that will be invaluable to the medical student.

These things have been referred to, in order to show the readers of these papers the value of the "old paths" which were opened in the first paper on the bandage, and which it is my design now to pursue again. Wiseman,

Baynton, and Scott gained no small degree of credit by their use of the bandage, but Heister preceded them in all the useful qualities of that agent. I should rejoice to see the following sentiment of old Hiester properly impressed upon the mind of every person who wishes to practice surgery beneficially to his patients, and creditably to himself. That surgical reputation that is founded upon a thorough and correct appreciation of the bandage, cannot be easily shaken. Heister said, in 1739:* "The general use and necessity of bandages in relieving and curing the disorders of human bodies, is very apparent, not only from their being thought worthy to be made an important subject of consideration by the first fathers of physic, as Hippocrates and Galen, with other eminent physicians; but also from there being hardly any operation in surgery practicable without their assistance. Even where an operation has been performed, in all other respects, with the greatest judgment and dexterity, yet if the surgeon miscarry in his bandage, by an unskilful application thereof, all his other endeavors, though just and laudable, may either totally, or in a great measure, prove fruitless, to the great damage of his reputation; and this more especially in the treatment of wounds, fractures, luxations, amputations, and the like. We may add, that in fractures, and luxations, after a reduction of the parts, the whole cure depends entirely on the bandage, and, in many profuse hemorrhages, nothing can afford so certain and speedy relief, as an exact deligation of the wound with a fit compress and bandage, which may even save the life of the patient, as every one knows that has the least knowledge of the nature and treatment of wounds. To say nothing of the recommendation, that the neatness and readiness of making a bandage and dressing will give the surgeon, both as to his patient and the spectators,

* Heister's Institutions of Surgery. Part third, p. 292.

who judge of his other abilities by his performance of what comes under the general cognizance of every one's senses, as Galen justly observes."*

I know of no more important paragraph in surgery than the one just quoted from Heister, and all who may acquire proper facilities and understanding in the use of the bandage will, after the experience of a few years has taught them its value, fully corroborate the remark made above. Heister employed the bandage quite as extensively as any modern surgeon does, and for the same objects. His name is sometimes appealed to as an authority for the use of balsam of Peru for ulcers, but an examination of his remarks scarcely supports the idea that he was favorable to any thing of the kind. He says: "It is not easy to say what should induce almost all physicians to cry up certain balsamic remedies, as having a peculiar virtue in generating new flesh: besides, our digestive is endowed with a balsamic power; *but to say the truth, the generation of new flesh is not so much owing to the use of any particular medicines, as to the benefit of Nature.*"

I have made these references to the ancient literature of surgery and medicine, in the hope of inducing some readers to look into the works of the founders of medicine. I am persuaded that much has been lost by neglecting their writings, and that practical medicine would now be much farther advanced, if they had been treated differently. Of one thing the reader may rest assured—his examination of these ancient writers will satisfy him that many things which are claimed as new, among moderns, were well known and appreciated by the early observers of medicine. Many a modern writer has claimed for himself an overwhelming originality in matters that were perfectly familiar to the profession centuries ago, and these

* Lib. de Fasciis, where he directs: Quod injicitur, celeriter, jucunde, prompte et eleganter injiciatur.

pseudo-originals gather around them a clan, who vindicate the former existence of Balaam's beast, by showing that they are his lineal descendants. Their actions, in relation to their master, perpetually repeat the language of their ancestor: "Am I not thine ass, upon which thou hast ridden ever since I was thine ass?"

It would be needless to urge the importance of correct views of the pathology and treatment of ulcerative action. The student will hasten from almost anything to see the operation of lithotomy, and in the course of years of practice he may never be called on to see a case of calculous disease; but his introduction into practice may probably be based upon the treatment of ulcers, and upon his success must depend his standing. Should he not, then devote himself to that which is most likely to pave the way to his professional eminence? Sir Benjamin Brodie, quoted by Mr. Critchett, has expressed the sentiments that should govern all medical men in matters of this nature. That distinguished surgeon, who had attained the highest distinctions of his profession, from the exalted position he had reached, thus showers down the ripe fruits of a long and well matured experience: "Ulcers of the leg are cases in which there is no question about the patient's life or death; and I think it very probable that many among you may pass by the bedside of such a patient, without thinking it worthy of attention. But I am not disposed to regard it in this manner. Although the patient may not die of this malady, yet without care it may render him miserable for life. The disease may be very much relieved by proper treatment, and it is one of very common occurrence. You examine carefully a case of aneurism, a case of stone in the bladder, and so on; but these are things of comparatively rare occurrence, and which will not fall under your treatment in the beginning of your professional lives; but ulcers of the leg are cases of a very distressing nature, and such as

meet you at every turn of your practice; and your reputation in early life will depend more upon your understanding a case of this kind than upon your knowledge of one of more rare occurrence."

There are few diseased actions that are of more interest than those developed in the various forms of ulcers of the lower extremities. It is of the greatest importance that their character shall be well understood, and that a successful treatment shall be inculcated. An indication has been given, in the first of this paper, of the dire confusion that prevails among surgical writers on this subject. It is distressing even to look at an inventory of the articles commended for the cure of ulcers, and the fact that we often meet with descriptions of "old ulcers" is conclusive proof how futile and fruitless the articles of this inventory are in their application to ulcerative inflammation.

I do not purpose to urge the bandage as the sole agent for the treatment of ulcers; my design is to show what an important element it is in the treatment of those affections, and to point out the cases that call for its agency, and the conditions that require other means in aid of its powers. I have repeatedly seen an ample trial given to the various topical applications that have been enumerated in the commencement of these remarks, and have enjoyed abundant opportunities for comparing the results of the roller treatment, with every other form of management that has been commended, and I feel no kind of misgiving as to the truth of the statement, that the comparison was equal to the contrast between light and darkness, between uniform success and uniform failure, between comfort, ease, rapid amendment, complete and permanent recovery, and pain, restlessness, long continued suffering, and utter failure. It is humiliating to take up such a work as Sir Everard Home's Treatise on Ulcers, to read it, in full view of the amazing opportunities he enjoyed

for attaining full knowledge of the whole philosophy of ulcerative action, and its proper management, and then turn to the lights of experience and observation. I am almost tempted to wish that Sir Everard Home had burned his own work on ulcers, rather than the immense masses of John Hunter's manuscripts, which he destroyed, to keep the world from discovering that he owed all his honors, his reputation, and distinction to his pilferings from his immortal kinsman.

In order to facilitate a full and correct understanding of the subject to be submitted to the reader, I shall divide this paper into departments. The first of these will properly be:

The Causes of Ulceration.—A full understanding of the laws of the venous circulation, will pave the way to a correct understanding of the phenomena of ulceration, especially in the lower extremities. Nine ulcers in ten occur in the lower extremities, and the most intractable forms are generally in the vicinity of the malleoli. These facts are constantly insisted upon by surgical authorities; the varicose condition of the saphena veins is usually connected with ulceration, and this condition was fully recognized by Heister, and by numerous authors since his time. John Hunter's investigations threw a great deal of light upon the process of ulceration, and his school of surgeons have made great improvements in the treatment.

Sir Benjamin Brodie, in his clinical lectures on surgery, has done the subject more than ordinary justice.

Mr. Critchett, in a series of lectures delivered in the London Hospital, has added valuable principles to the treatment of ulceration.

The two surgeons last named, insist with much force upon the varicose condition of the veins, in connection with the generality of ulcerations of the lower extremities. In addition to this, the locality of an ulcer has

much to do with its entire character. In the language of Mr. Critchett, "when ulcers occur in the lower extremity, the more remote the position of the sore from the center of circulation, *(cæteris paribus,)* the more tedious and uncertain is the reparative process." This fact should admonish the surgeon of the necessity of increasing the energies of his efforts at reparative measures in a ratio with the remoteness of the ulcer from the center of circulation. Another important feature in the treatment, arising from the position of the ulcer, will be insisted upon in another part of this paper.

Mr. Critchett insists upon the fact that cramps in the muscles of the legs have something to do with a varicose condition of the veins—a statement more plausible in theory than in reality. Mr. C. argues that in cramps of the legs, a pressure is made upon the deep-seated veins, and thus a larger amount than the usual quantity of the returning blood is thrown into the superficial veins, which causes dilatation. In this way the valves are separated, and, when their uses are gone, they shrivel, and, in a great measure, perish. This theory is scarcely borne out by observation. I have known many persons who were subject to repeated attacks of cramps in the legs, for years, who were not more subject to ulcerations than those who were not the victims of cramps. Cholera, in which cramps of the legs are of a violent character, has not increased the tendency to ulcerations, and children who are peculiarly liable to spasms, are not peculiarly the subjects of ulcerations.

Of the value of the following deductions of Mr. Critchett, there can be no kind of doubt, and they are important to a correct understanding of the subject of ulceration. Mr. Critchett says: "A dilated condition of the veins of the lower extremity, from whatever cause it may spring, may terminate in five different ways:

"First. It may produce hypertrophy of the coats of the veins, and thus resist farther distention.

"Secondly. The principal veins may become plugged up more or less completely with fibrine, and thus by diverting the current of blood into other channels, the disease may become stationary.

"Thirdly. The capillaries of the skin and subcutaneous cellular tissue may become likewise dilated, giving rise to permanent discoloration of a large portion of the skin, and to thickening and firm fibrinous deposit beneath it, and thus the disease in the larger trunks would seem to be checked, if not arrested.

"Fourthly. The larger veins may become more and more enlarged and elongated; the smaller trunks may become gradually implicated, until what I have denominated the spongy leg is produced; this condition sometimes relieves itself by hemorrhage.

"Fifthly. In this spongy condition of leg a congeries of red vessels may form, in the centre of which a white patch appears on the skin, which is the immediate forerunner and indicator of ulceration; which, being established, is another way in which the congested veins are temporarily relieved."

As Mr. Critchett very properly remarks, this state of things is not only a frequent cause of ulcers, but also a serious barrier to their successful treatment, and a very constant source of their recurrence.

One of the most common causes of this varicose condition of the veins of the legs in females, is the pressure of the gravid uterus, and I have often seen alarming hemorrhages in this condition. Avocations that require persons to stand a long time in one position, is another fruitful source of it. The most common cause, in the cases that have come under my observation, is debilitating attacks of fever, which, by enfeebling the vital forces of the veins, produce engorgements in the superficial veins of the lower extremities. That form of fever, called the "Cold Plague," which raged, many years ago, through

the United States, might have been tracked, from one end of the Union to the other, by the frightful and disastrous ulcerations it caused. It made a saturnalia for manufacturers of wooden legs.

A plethoric habit may easily cause ulcerations; the carbuncle may be considered a form of ulceration, and that is often the result of free eating. The use of alcoholic drinks is a well known cause of a very intractable kind of ulcer. There are few that are more difficult to manage, and none that are more apt to return. Those who have had anything to do with these ulcers, are fully cognizant of the difficulties that attend their permanent cure.

Deranged menstruation gives origin, sometimes, to what is called the menstrual ulcer, and as the treatment is modified by the character of its origin, it should be clearly recognized. In deciding upon the treatment of any ulcer, it is important that the cause of the diseased action shall be accurately known.

Division of Ulcers.—A great many distinctions have been enumerated in classifying ulcers, but the best classification I have seen is the one proposed by Mr. Critchett. He divides ulcers into simple, or local; and specific, or constitutional.

The simple, or local, are divided into acute, or spreading, subacute, chronic, healthy, irritable and varicose.—The specific, or constitutional, are arranged under the various heads of strumous, syphilitic, phagedenic, periosteal, menstrual, edematous, and malignant.

It is well to bear in mind these distinctions, for the proper treatment of these diseased actions depends mainly upon the ability to recognize the precise characters of each one. Upon a full knowledge of the laws of the venous, absorbent, and secreting systems, a nice discrimination of the varying phases of ulcerative action, and a clear and satisfactory diagnosis in the varieties of ulcers, mainly depends the success of the treatment. It must be

ever borne in mind that what may be serviceable at one stage of an ulcer, may be injurious in a different stage.

I do not think it necessary to encumber this paper with a minute description of the ulcers already enumerated.—A brief sketch of a few of the prominent ulcers will be sufficient for the purposes of this essay.

The Acute Ulcer.—There is no scarcity of descriptive accounts of ulcers, but the authority I prefer is Mr. Critchett. His descriptions most nearly accord with my own experience and observation. Of the acute ulcer, he says: "This form of ulcer is attended generally with severe suffering, which is greatly aggravated when the limb is placed in a depending position. There is great heat and tension, and the pain is of an aching, growing character. The ulcer looks uneven and glassy, the edges are irregular and undefined, sloughs, varying in size, are often seen on the surface; the discharge is thin and ichorous; the surrounding parts are of a bright red color, or sometimes of a peculiar speckly red and white aspect." Mr. Critchett objects, it seems to me strangely, to the use of the bandage in this stage, but he very properly urges the use of the water dressing. I know of no application of the bandage more uniformly useful than in this form of ulcer. In combination with the water dressing, there is nothing more to be desired.

In the *sub-acute stage* of ulceration, the points to be attended to, are the color and temperature of the adjacent parts, and Mr. Critchett adds, as a useful guide, the amount of pressure required to empty the vessels, and the rapidity with which they re-fill.

The Chronic Ulcer.—This is the form of ulcer most generally presented to the notice of the physician. The acute and sub-acute stages are usually treated with mullen leaves and poultices of urine, and, proving intractable under such scientific assaults, they pass into the hands of the surgeon. The leading characteristics are, almost an

absence of heat, and a discoloration of the skin, running into a blue or russet color. The sore looks as if it were deep; the edges may be everted, or inverted, or the face of the ulcer may present a flat appearance. These peculiar edgings often give occasion for the display of meddlesome scalpels and scissors.

The Irritable Ulcer.—This ulcer, according to Mr. Critchett, is usually small and superficial; is most commonly found in females; is generally situated about the ankle; and sometimes, but not invariably, complicated with varicose veins. The distinguishing characteristic is that the appearance and symptoms give no adequate suggestion of the extreme amount of tenderness and suffering experienced by the patient.

The specific ulcers, the strumous, phagedenic, and syphilitic, it is unnecessary to describe with anything like a detail of differences. Their character can be easily detected, and the treatment will be indicated in its proper department. I pass to a general survey of the subject.

If it were not my desire to make this essay practical in its character, I should be tempted to give a historical sketch of the treatment of ulcers, and the commendations of the bandage, as the chief agent of their cure, from the earliest era of medicine down to the present time. It is remarkable that in all epochs of surgery, traceable by written records, the bandage, as used in the present day, has been uniformly commended by able, judicious, and experienced men, and has been disregarded by the mass of practitioners. It is so much easier work, on the part of the surgeon, to order a poultice, a wash, or an unguent, than to apply a bandage neatly and properly, that this valuable agent does not enjoy that position, generally, to which it is entitled. The general ignorance, indeed, is so great, of the character of its merits, that men who have urged its value with zeal and earnestness, in the very terms and extensive appropriations given it by

various authors, at least one hundred years since, have been very foolishly looked upon as original. If there is any use of the bandage taught now, that was not forcibly commended by Heister, Heberden, Wiseman, Underwood, Benjamin, and John Bell, to say nothing of many others, I confess I do not know anything about it. To men well read in professional literature, these modern claims to originality are in the highest degree preposterous, absurd and ridiculous. It is recorded of the editor of a daily newspaper, yet in existence, that he once had the fifth chapter of Matthew's gospel imposed upon him as an original communication, and that was scarcely more absurd than the ridiculous originality to which these remarks refer.

In order to impress this subject, treated in my former essay on the bandage, upon the mind of the reader, and to pave the way to a proper understanding of the treatment of ulcers, which I design to commend, I present the following quotations from various authors on the use and value of the bandage:

Heister gives directions for discharging matter from ulcers, etc., and directs to dress with "digestive ointment spread upon lint, and secured upon the part with diachylon diapalma, or any other plaster of that kind, covering the whole with proper compresses and bandages." Gen. Sys. Surg., part i., p. 242.

"*Fistulous Cases.*"—"When the ulcer is cleansed, and the proper dressings applied, you must clap a small compress, or a slip of plaster doubled up in the form of a small compress, upon the part where you judge the fundus of the fistula to be seated, securing all with bolster, plaster, and bandage, as usual. In rolling up, the best method will be to place the beginning of the roller upon the fundus of the fistula, or at least to make the fastening tight upon that part: This will direct the contained

matter towards the opening, and the bottom will heal before the rest of the sinus." Ibid., p. 244.

Heister lays great stress on the importance of constitutional treatment, and says: "If internal remedies are not neglected, there is no doubt but that the very worst of ulcers may generally be cured." Ibid., p. 246.

"The surgeon's principal care in fractures, is to unite the broken bone, to which three things are necessary: 1. That the bone be restored to its natural situation, which is to be done by extending it and replacing it. 2. That after the bone has recovered its natural situation, it be kept there by giving it rest, and applying proper bandages. Lastly, 3. You are to use proper means to prevent, or remedy the disorders that usually attend this accident." Ibid., p. 108.

"When the fractured bones maintain their natural situation, you are under no necessity of extending or replacing the limb, but of applying a proper bandage."—Ibid., p. 108.

To preserve the portions of a fractured bone in proper position: "Two things are chiefly required to this end: 1. To bind it up properly; and, 2. To lay the limb in a convenient posture. The apparatus for securing the situation of the limb, is composed of bandages, bolsters, and splints, which are to be made of thick paper, or wood; or, if the surgeon shall think proper, of thin plates of copper, brass, steel, tin, or lead. But I think the best are those made of wood or paper. The manner of dressing the limb is as follows: In the first place, a roller is to be passed around the fractured limb; upon this are to be placed bolsters, and over these splints, which are to be secured by a tight bandage over all." Ibid., p. 110.

"It is no wonder, therefore, that fractures are ill cured, where the surgeon is ignorant of the proper methods of applying the bandage, or the patient is unruly, and will not give the limb proper rest." Ibid., p. 111.

"Although great numbers of surgeons, at this time, make it their constant practice, to apply a plaster to the fractured part of the limb before they make the bandage, yet the most prudent and skilful surgeons amongst the moderns entirely reject applications of this kind, as not only useless, but injurious to the patient, for these plasters can do no service without the bandage; but the bandage alone, if it is dexterously made, is sufficient to keep the limb firm; and the plaster carries this inconvenience with it, that it stops up the pores of the skin, and produces tumor and most violent itchings. For my own part, I am entirely of opinion, that all kinds of fractures may be very happily cured without the use of plasters; and I am confirmed in this opinion by long experience." Ibid., p. 111.

"Since the chief help seems to be expected from *bandages*, we should principally contrive, that besides having the general properties of a due length and breadth, they should also be accurately adapted to the shape of the broken limb."

"In order to keep the parts in their natural situation, the bandage should be made pretty firm; but if you tighten it too much, you will interrupt the circulation of the blood, and excite tumors, inflammation and gangrene.—On the other hand, if the bandage is made too loose, it will easily come off, and set the disunited parts at liberty; the middle way, therefore, is most eligible." Ibid., p. 111.

"When the bandage remains sufficiently tight, and no bad symptoms appear, you should not loose it till the fifth or eighth day, but where you have inflammations, tumors, pains, and violent itchings, or where the bandage is too loose or too tight, which is frequently the case, you must instantly take off the dressings and change them.—The second and third dressings must be performed in the same manner with the first, with this only difference, that

at the third dressing, if you perceive no tumor, you may make the bandage tighter than before, and by this means prevent the luxurious growth of the callus, which would occasion deformity." Ibid., p. 112.

"If, then, these swellings, and inflammations, and ulcers, be almost peculiar to the legs, and chiefly incident to those who, from their age, or sex, or accidental hurts, may reasonably be supposed to have less firmness either in the textures of their whole bodies, or of this particular part, it should seem a right practice to add an additional strength by bandages and strait stockings: and how safely this may be done, appears from the total vanishing of the tumor by a horizontal posture, without any apparent injury to the health," etc. Heberden's Commentaries, p. 88.

Heberden was born in 1710. The Commentaries were published in 1782.

In regard to the treatment of ulcers, "Enquirer" says: "It is somewhat remarkable, in the history of this subject, that the use of bandages, mentioned by Read, and particularly recommended by Wiseman, appears to have been almost wholly disregarded for many years, till the employment was again suggested by Ney Else, (Medical Obs. and Inq., vol. 4.) This gentleman accidentally observed the advantages of tight bandages, and he availed himself of them in their full extent," etc. Ed. Med. and Surg. Journal, vol. i., p. 188—1805.

"In the list of remedies, firm and well-applied bandages form one of the most important. By compressing the superficial vessels, they render the circulation less languid; and by the support which they give to the muscles and soft parts, they admit of the limbs being often moved without inconvenience; they keep the granulations from rising above the surface, and they dispose the skinning process to take place, by promoting the absorption of neighboring parts; they not only invigorate by general

compression, but by the warmth which they retain, and serve for a defence to the new formed parts." Ibid., p. 192. After discussing the relative value of the litharge plaster of Mr. Baynton, the flannel roller, etc., he says:

"Rollers made of strong linen, or calico, appear better adapted for common use."

Henderson says, after speaking of various local applications required by certain circumstances: "and, above all, a flannel roller, properly applied, so as to enable the patient to make use of sufficient exercise, were of great service." Duncan's Commentaries, 1788, vol. iii., p. 297.

I again urge upon the readers of these essays on the bandage, the great necessity they are under to study the whole subject. No amount of study will enable them to know too much, no amount of practice in the application of the bandage will make them more skillful than they should be in its use.

In 1753 the fifth edition of Heister's works was published in England. It was filled with useful instruction on the whole subject of the bandage. From these valuable works, Underwood caught his inspiration on the subject, and his lessons, on the application of the bandage to ulcers, were instructive in an eminent degree. Benjamin Bell followed in the good work, and Mr. Baynton made his useful suggestions on the treatment of ulcers, in 1799. The quotations made above show the estimate placed upon the bandage by those who are considered authorities, and their testimony is entitled to great weight.

The medical profession is deeply indepted to Dr. Baynton for correct views in the treatment of ulcers. He has been sometimes disparaged by "distressed critics," but I doubt whether there has been any material improvement made upon his treatment of the generality of ulcers. In the Medical Gazette, of January 8, 1841, Mr. Joseph Bell, of Barhead, England, reports twelve admirable cases to show the efficiency of Mr. Baynton's method of

treating ulcers. A distinguished English medical writer, in refering to them, acknowledges the truth of a suggestion made in a preceding part of this essay. He says: "There is no doubt that the practice is excellent; but the troublesome attention which it constantly requires must always be an impediment to its general and continued use." This is certainly a strange objection to urge against an "excellent practice!"

Mr. Bell, in connection with his twelve cases, says: "To explain at any length the method of this celebrated surgeon (Dr. Baynton) may seem to some superfluous. It is, however, my decided conviction that the majority of practitioners are either ignorant of it, or do not put it into practice. Dr. Hannay, of Glasgow, is the only medical man that I either have seen using it, or heard recommending its employment."

"Baynton's system consists of three parts: first, straps of adhesive plaster, from two to three inches broad, and of sufficient length to surround the limb, and to overlap a few inches. These straps are to be applied by placing the center of the strap exactly opposite the ulcer, over which the free ends are to be crossed, pulling them as tight as the feelings of the patient will permit. The first strap is to be placed a little below the lower margin of the sore; the second is to overlap it a little; the third to overlap the second a little; and so on until the ulcer is completely covered; a soft piece of cloth is then to be placed over the ulcer; but I frequently dispense with this. Secondly, a bandage is to be applied, from the extremity of the limb to the articulation above the sore. Thirdly, this bandage is to be kept constantly wet with cold water. The dressing to be changed every day, or every second day, according to the quantity of discharge and irritability of the ulcer. Such, then, is the Bayntonian system, which, when properly applied, is competent to cure, speedily and effectually, the irritable or inflamed, and the va-

ricose, as well as the indolent or callous ulcer; proper attention, of course, being paid to the improvement of the general health—a *sine qua non* in every plan of treatment."

"In the absence of all practical experience on the matter, the system strikes us as admirably suited for 'irritable ulcers,' which differ chiefly from those of an indolent nature in an inflammatory state of the integuments, with infiltration into the adjoining cellular substance. No better means can be employed to remove these conditions than the bandage and cold water. The pressure removes the inflammation, empties and supports the overloaded and enfeebled capillaries. The cold water is a powerful agent in the removal of the cutaneous inflammation; by decreasing the high temperature of the part, it produces a sedative effect. But these are not the only benefits derived from the bandage and water; they also act as stimulants to the ulcer, and thus establish a new and healthy action in the sore, which is at the same time kept constantly clean. I humbly submit, if this be not as rational a plan to remove the inflammatory condition which surrounds these ulcers, as either leeching or poulticing; and then it has the very great advantage, that the patient can walk about during the time the sore is healing."

I cannot imagine how there can be two opinions on the proper treatment of ulcers. The fact, universally noticed, that the superficial veins of the leg, for want of support are most prone to ulcerative action; while the deep seated vessels, supported by the controlling presence of the muscles, are not liable to that form of inflammation, indubitably points to the necessity of support for the superficial or exposed veins. That support is found in the roller, and its powers may be modified so as to suit almost every condition of ulcerative action. For this reason I have not considered it necessary to be minute or specific in a description of the ulcers, because it is safe to assume

that those who have capacity to treat ulcers with the bandage, will have the ability to discriminate the varying conditions of the ulcer, and to modify the use of the roller to suit the different stages of the disease. To illustrate this point, I call attention to a statement made by Mr. Bell, in the quotation made above from his paper. In describing the Bayntonian method of cure, he says: "Thirdly, this bandage is to be kept constantly wet with cold water." This is two sweeping a remark, and would land a mere routinist in a great deal of trouble. There are ulcers that do not need cold water, there are others that require a great deal; some do best with the bandage perfectly dry, others with a slight dampening. And all these conditions may be found in the varying stages of the same ulcer. This illustration shows the necessity of being guided by principle in the use of the bandage, as well as in all other forms of treatment, and may teach the value of a thorough study of the various powers ascribed to the bandage.

I cordially subscribe to the eulogium bestowed by Mr. Bell, on Mr. Baynton's treatment of ulcers. He is occasionally criticised by hobby-riders, but to his practical abilities the profession owes nearly all it knows on the proper treatment of ulcers. His plan is certainly susceptible of some improvement, but he paved the way for the correct appreciation of well regulated mechanical support in the treatment of ulcers.

An objection is sometimes urged to the encircling of the limb with the adhesive plaster; it is said that this acts as a ligature, and may injure the ulcer instead of benefitting it. It seems to me, however, that such results must be from the abuse of the remedies, rather than their proper use. I have not seen anything but benefit from Mr. Baynton's method of treatment, and I have had a long and extensive experience with it. If the proper use of Mr. Baynton's means of cure were open to the objections

referred to, it would be singular that the evil effects should not have attracted the attention of the great numbers of surgical writers who have commended Mr. Baynton's method. Mr. Critchett admits that Sir Benjamin Brodie, Liston, Ferguson, Syme, Miller, Chelius, Cooper, Rust, Blandin in the French "Dictionary of Medicine and Surgery," and many others, echo "Baynton's plan," but he thinks their commentaries show some dubiety as to its value. The fact, however, that they relied on the treatment, suggested by Mr. Baynton, shows that they recognised it as the most valuable in their possession. If the "Bayntonian method" were capable, *per se*, of inflicting the injuries referred to by Mr. Critchett, should not something have been heard of them in the twelve cases reported by Mr. Bell, in the "London Medical Gazette?"

Having thus introduced the principle of treatment, laid down in Mr. Baynton's treatise, in 1799, it may not be improper to glance at some of the other forms of treatment, that have been zealously commended.

In Charing-Cross Hospital, London, ulcers are treated with oil of turpentine, administered internally. Mr. Barber, M. R. C. S. E. of Colsterworth has great confidence in the application of common vinegar, by bathing, and the use of lint dipped in vinegar, applied over the ulcer, *and the bandage applied in the usual way.*

Mr. Spry is favorable to the use of Balsam of Peru. Lint is soaked in it, placed upon the ulcer, oiled silk is placed over it, *and a well applied roller over the whole.*

Mr. Chapman says: "After dressing the sore with a compress of wet lint, before the bandage is put on, I encircle the part of the limb on which the ulcer is situated with from three to six, or more, moistened strips of linen or calico, of the same length and breadth as the straps employed by Baynton, drawn tightly, and crossed in precisely the same manner as the adhesive plaster. These wet strips adhere to the skin as closely and smoothly as

the strapping; and as each one overlaps the upper third, or half, of that previously applied, they afford an amount of support, or compression, very little, if at all, inferior to it. Over this peculiarity of the water dressing, Mr. Chapman uses the bandage. Of the water dressing, and Mr. Macartney's connection with it, I shall have more to say when I come to the treatment I shall commend for ulcers.

"Dr. Jones, M. R. C. S., paints half an inch around the sore with a strong solution of nitrate of silver, and dresses the sore itself with chalk ointment, spread on lint, and three or four inches above and below, with plaster spread on linen, (composed of equal parts of strong mercurial ointment, yellow wax, and soap cerate, with the addition of one drachm of camphor to each ounce of the compound,) and binds the leg from the toe to the knee with wet cotton bandages, the dressing not to be changed more than once a week. In this way Dr. Jones cured his patients in about two months."

But these specimens of illustrations of the multitudinous methods adopted by surgeons, in the treatment of ulcers, must suffice. The variety is not exhausted, but the space that can be devoted to it is, and I must pass to an examination of some of the recent works on this subject. It is certainly a desirable thing that the profession should agree upon some settled principles of treatment for these affections. Mr. Wakley says, with great truth: "Of no disease does a medical practitioner undertake the management more hopeless of benefit, than a 'bad leg.' Viewed in any light, the malady is associated, in his mind, with tediousness, perpetual trouble, and, in the majority of cases, with unsatisfactory results. This is evidently the consequence of unsettled methods of treatment. The hap-hazard system of practice has had full play in the management of these diseases; for every practitioner has his own mode of treatment, and every nostrum has its day of popularity, only to be thrown aside and replaced

by another, the fame of which becomes equally ephemeral. It is not, therefore, surprising that the quacks enjoy so large a share of this kind of practice. John Bell might well say, 'it is impossible to be serious while we enumerate the thousand remedies which have been recommended for ulcers.' "

The disposition which is often manifested by medical men, to hunt up and nurse a little bantling, which they call originality, has been the bane of the profession.—They scorn to be "as other men;" their predominant idea of professional excellence is not connected with the welfare of their patients, but with self-laudation, and they rejoice in making, or claiming changes in the works of experience and observation. This paltry aspiration is the cause of the unsettled condition of many points in the treatment of disease. In tracing this state of things, through various works, I have, however, been forcibly impressed by one prominent fact—in nearly every one of the plans of treatment for ulcers, the bandage plays a conspicuous part, and to its presence, in many of the "plans," is due all the success claimed for some of the adjuncts.

Mr. Walker, who published a treatise, in 1848, on the cure of ulcers by fumigation is, however, an exception to the remark. He dispenses with the bandage, and zealously urges a system of fumigation, with iodine and sulphur. He says his system is very simple, and, by way of illustrating the fact, he remarks that "he has a series of mahogany boxes, having in the cover of each a round aperture for the reception of the limb. Each box communicates below with the engine room of my establishment, whence heated air or warm vapor can be passed into the apparatus. On the bottom of the box is placed a heated iron, and on the latter the powder of iodine and sulphur, which is volatilized by heat." The excessive simplicity of this apparatus must appeal to the general

practitioner with more than ordinary force! And if he looks to Mr. Walker's details, and examines the delicate shades of discrimination that have to be adapted to each individual case, he must, if he adopts the treatment, make up his mind to spend his whole professional life, in the treatment of ulcers exclusively. Nothing short of incessant practice could make him an expert operator under Mr. Walker's rules, and no expertness under them could ever make amends for dispensing with the bandage. That agent should be regarded as a *sine qua non* in the treatment of ulcers, no matter what other means are resorted to. What form of pathology that can be that looks to any local application to an ulcer, without the bandage, as a successful treatment, transcends any conception I have of the subject. Mr. Critchett remarks very justly, in allusion to the thousands of vegetable and mineral specifics that are commended, "no application to the wound can ever get rid of the surrounding congestion and morbid deposit, upon which the ulceration depends, and to which it owes its continuance."—There is nothing that can perform the offices of the bandage in the treatment, not only of ulcers, but of many affections that are kindred to ulceration, but which are not usually called by that name. It is the oldest of remedies for such disorders; from the days of Hippocrates and Galen, down to the present, through all the varying schools that have lived and perished, through all the wild, fanciful and chimerical systems and theories that have been in vogue, as well as among the most truthful and observant of sects, the bandage has steadily maintained its position, as, at once, not only the most useful and valuable of all agents for its purposes, but the one of all others, capable of the most general and extensive use. The highest authorities in all ages of medicine have constantly endeavored to bear testimony to its great qualities, and many of the old surgeons had as clear and extended views

of its multiform capacity for a great variety of surgical purposes, as any of the most enlightened among the moderns. Why should there, then, be any hesitation about the use of a remedy thus commended? If the accumulated experience of many centuries is of any service, why seek to deviate from that plain path that is studded with monuments of success, and that has all the leading lights of the medical profession playing upon it?

I think that for the most useful adjunct to the mechanical pressure and support of the bandage, in the treatment of various inflammations, the profession is mainly indebted to the invaluable labors of Dr. Macartney, of Dublin. That experienced and excellent surgeon, in his lectures, in the University of Dublin, enforced with great eloquence and power, from the year 1819 to 1836, the uses of the water dressing, and when the bandage and the water dressing are combined in the treatment of inflammations, it is scarcely possible to imagine a want that surgeons can feel in the treatment of those diseases to which either is applicable. But it must be borne in mind that the use of these agents requires judgment; that what is useful in some stages, is not so in all, and that modified conditions of the disease, require modified uses, both of the bandage and of the water dressing. In commenting upon the remark of Mr. Bell, in a former part of this paper, on the subject of "keeping the bandage constantly wet with cold water," I stated that I would recur to this subject again.

If a loose statement of the kind quoted from Mr. Bell, were rigidly followed out in the treatment of ulcers, it would show what could be done, by the abuse of a good remedy. On this point, I prefer using the observations of Mr. Critchett, rather than any of my own. Of the "water dressing," Mr. C. says: "I have tried it extensively; it has the advantages of cleanliness, economy, and simplicity, and is certainly an immense improvement up-

on the complicated unguents of former days; but it is desirable, if possible, to get at its real value. It answers remarkably well in the transition stage from the sub-acute to the chronic ulcer; but there comes a time when the surface of the sore is either raised or flabby, as in cases where it is combined with entire rest, or becomes dry, and makes no progress towards healing. In either case it has done its work, and some other application must be substituted."

It may be asked, what is the value of various other commendations; such, for instance, as the application of steam to indolent ulcers, so strongly urged by Dr. Macartney. The only answer that I can give to all such queries is, that beyond the adhesive strips, the cold water dressing, and the bandage, I have never found occasion for the use of any local application; in a considerable experience, I have found no form of ulceration that did not yield readily to this treatment—so readily and so well, indeed, that it has hitherto proved unnecessary to seek other agents.

There are reasons, already suggested, for the neglect of these agents in the class of disorders for which they are useful—and they are the labor, and loss of time imposed upon the surgeon. This is an indifferent excuse; and there is another, perhaps, which few would like to acknowledge—the want of skill in the use of the bandage. In relation to the first reasons, I think the supposed economy of labor and time used in ordering poultices, balsams, unguents, &c., compared with that gained in the use of the bandage, is a waste—one involves not a little labor and loss of time, to physician and patient, scattered over a long period; the other involves labor and loss of time within a narrow space, and the patient gains as a consequence of the latter. For, in addition to all the other elements of usefulness that have been allotted to the bandage by the eminent and experienced surgeons of

all ages, the practitioner should regard as not the least of its prominent merits, that the patient can take exercise, in many forms of ulceration, and attend to business without materially interfering with the progress of the cure. The value of this consideration is almost inestimable, and it brings up, in its proper place, an investigation of Mr. Critchett's proposed modifications of the Bayntonian treatment of ulcers.

I have already expressed my admiration of Mr. Critchett's very excellent treatise on ulceration. The general character of its principles, the soundness and clearness of its pathological views, and the correctness and fulness of many of the original suggestions, constitute Mr. C.'s brochure on ulcers, one of the very best in the English language. It is a source of regret that in the midst of so much that is deserving the warmest and strongest commendation, there should be anything that calls for a different course. But I am persuaded that in proportion to the departure of Mr. Critchett from the general spirit of the Bayntonian local treatment, in that proportion has he detracted from the merits of his work. I have already questioned the value of Mr. C.'s animadversions upon Mr. Baynton's peculiar use of the adhesive strips, and have expressed the opinion that the objections were more plausible on paper than real in practice. As an improvement upon Mr. Baynton's method, Mr. Critchett recommends that unglazed calico be spread with the simple emp. plumbi of the Pharmacopia, free from resin. The calico, thus prepared, is to be cut into strips two inches broad, and from twelve to eighteen inches long, according to the size of the limb. These pieces are to be warmed, and placed around the limb, from the toes upwards, somewhat in the style of Scultetus's bandage. In applying the adhesive strip, Mr. C. thinks that the strip should be applied at its middle, and worked around the limb smoothly, until the ends are made to cross each oth-

er. These are carried, in this way, from the toes, up the limb to the knee, or even above it in some instances. After the limb is thus enveloped, a calico bandage is to be applied, in order to keep the strips, or straps, as Mr. Critchett calls them, in their place.

That there are conditions of the limbs that would be benefitted by this course, I have no kind of doubt; but as a general application, I more than doubt the value of this practice. Notwithstanding Mr. Critchett's opinion to the contrary, it is difficult to imagine that this course will permit a man to pursue his ordinary avocations. Even the moveable turns of the bandage, and the soft, flexible character of its material, do not always, under all circumstances, permit a man to use his limb freely; what *must* be the additional constraint, when the whole *limb* is shingled with adhesive plaster, kept to its place by a bandage? And as repeated applications of cold water, or alcohol and water are essential to the comfort of the patient, under the influence of the bandage, and contribute largely to his rapid recovery, I think in this fact, a reason is found for the rejection of Mr. Critchett's adhesive mechanical support, that far outweighs every possible advantage that any one can conceive it to possess.

Ulcers about the malleolus, or tendo Achilles, when intractable, may be benefitted by Mr. Critchett's plan, but it would not in this case be necessary to carry the straps far up the ankle. Ulcers in all other parts of the leg may be safely entrusted to the combined principles of Mr. Baynton and Dr. Macartney. I have seen all the forms of ulcers that have been described, belonging to the leg, and I have never had any reason to look to any other method of cure, than that comprised in the various modifications of the adhesive strips and bandage of Mr. Baynton, and the water-dressing of Dr. Macartney. But, in any case requiring the extensive use of strips, suggested by Mr. Critchett, I should prefer the plan of Mr. Chap-

man, referred to in a former part of this paper—the use of wet strips of calico, applied in the way that Mr. Critchett uses his adhesive strips.

Those who may wish to practise the use of the bandage in the cure of disease, must not forget the warnings given in my former paper on this subject. As an encouragement to them to enter upon the study and practice of the bandage, I beg leave to quote the language of Mr. Critchett, in reference to giving mechanical support to a diseased limb: "With regard to the time and labor necessary for the acquisition of a fair amount of dexterity, I admit that it demands some practice and perseverance, and some courage, not to be daunted by early failures; but I can assure my young friends, from personal experience, that it is worth some pains; that practice makes each successive application more easy and rapid; and that when once they have triumphed over the difficulties, they will be most amply rewarded by the success that will attend their labors, and that, too, in a field where the 'harvest is plenteous and the laborers are few.'"

But there are other considerations in the treatment of ulcers. Invaluable as the local treatment is, as first suggested by Mr. Baynton, there are but few forms of ulceration that do not also require some attention to the constitutional treatment of the patients. The chylopoietic organs require examination, and when disordered, as they generally are, they must be regulated by suitable medicines, and an appropriate diet. The specific ulcers—the strumous, syphilitic, phagedenic, menstrual and malignant—require constitutional treatment, but they all derive great benefit from the local means recommended in this essay, for the simple ulcer. I know of no ulcers, except such as are connected with diseased conditions of the bone, that cannot be cured effectually by the proper use of the means commended in this essay. There are uses of the "water-dressing," but let it not be for-

gotten that there are also abuses of it; there are uses of the bandage, but it too may be abused. A knowledge of the pathology of ulcers, with skill and judgment in the use of the bandage, water-dressing and adhesive strips, will secure a successful treatment of ulcerations, if the constitution is attended to.

It may not be amiss to refer here to the suggestions of Sir Benjamin Brodie, on the dressing of diseased legs — He says: "When you apply the plaster, it should always be with the heel raised, the patient lying flat on his back, so that the vessels of the leg may be emptied of their blood. The same plan should be adopted when the plaster is taken off. If the leg be hanging down at the time the plaster is applied, the veins are full of blood, and the plaster becomes too loose as soon as the patient puts his leg up."

The removal and renewal of the dressings must be regulated by the nature of the case, for no general rule can be given. Where the bandage is used for the double object of mechanical pressure and water-dressing, it should be renewed often, and, speaking from personal experience, I know of nothing more grateful in some forms of inflammation, than the frequent renewal, in the course of the twenty-four hours, of the wet bandage. Sometimes the bandage may remain a week.

There is one other point on which I consider it important to speak, before passing to other matters. I allude to the fear, often expressed, of healing up old ulcers.— That there are circumstances that justify this fear, I have no doubt, but I think the principle is applied too extensively, and often injuriously. I feel glad to find that the experience I have had in the healing of old ulcers is confirmed by the observations of Mr. Critchett. He remarks: "How far is it desirable or safe, in reference to the general health of the patient, to heal ulcers of the leg, more particularly when of long standing? Extensive opportunities of observing cases that have been ra-

pidly healed, and that after having existed for many years —have convinced me that the dangers of healing old ulcers have been very much exaggerated by the old surgeons."

I am well aware that the subject of the treatment of ulceration has not been exhausted in this essay, but think enough has been said to fix the attention of the reader upon the bandage as the prime agent for repairing the destructive effects of ulceration.

There are other forms of formidable disease, in which the bandage exerts a most happy influence, and to one or two of them, I wish to call attention. The first is that serious inflammation called

Anthrax, or Carbuncle.—Almost the constant and uniform language of surgical writers on this disease gives rise to the impression that a considerable sloughing of the cellular tissue is as certain a symptom, as the calorific feeling from which the disease derives its name. Sir. Benjamin Brodie, Samuel Cooper, Bromfield, the Dict. des Sciences Med., Physick, Gibson, and others describe a sloughing process as a certain feature of carbuncle. Dr. Gibson ascribes great credit to Dr. Physick for having pointed out the proper time for the application of caustic. The usual treatment is by emollient poultices until openings are made, and then the cautery is to be used at once. This destructive process, of course, greatly protracts the sufferings of the patients, and adds to the seriousness of the case. After the slough has come away, granulations must form, and much time must elapse before the reparative process can be completed.—Are these things necessary? Is sloughing of the cellular tissue an essential feature of carbuncle? Must the cautery be always used in the cure of anthrax? Is it necessary that a patient shall suffer for months with a carbuncle? I am well prepared to answer all these questions in the negative.

In my former paper on the bandage, I stated that there were certain conditions of diseased action that were considered essential pathological phenomena of those diseases, but which were due entirely to the treatment they received, because while present under one form of management, they were altogether unknown in other forms. The remarks I have made on the pathology of anthrax, and the detail of my own case will illustrate the truth of the statement I have just alluded to.

In January, of this year, a small red pimple appeared on my right hand, late in the evening. It was looked upon as too simple a thing to need attention, although it had pain enough in it to keep up a reminiscence of its presence. On the next morning, it had assumed a formidable appearance. There was a considerable tumefaction, embracing that portion of the hand extending from the third joints of the little finger and the one next to it, up to the wrist joint. The skin was hard and brawny, and of a dark crimson color, especially at the centre of the induration. The burning sensation was as severe as though the hand had been dipped in molten lead, the pain was beyond anything I had ever endured, and there was a sense of excessive weight in the hand, constriction, and a stiffness that entirely prevented any useful movements of the fingers.

I had let the time pass for the use of the bandage, for the suffering soon became so great that pressure could not be endured. My general health, which was perfect, apparently, up to the appearance of the anthrax, began to suffer seriously. I was attacked with violent fever, headache, loss of appetite, and was unable to sleep. I resorted to rigid dieting, and the use of the emollient poultice, renewed every two or three hours. In the course of a few days of incessant and extreme suffering, I felt a fluctuation, but the agony of the hand was so intense, that I had to use chloroform locally to deaden the

exalted sensibility, in order to use the lancet. I at length plunged a lancet to the bottom of the abscess, and made a large opening in it, but it discharged nothing but a sanious fluid. The pain extended up the arm, and a large, indurated gland, on the inner edge of the deltoid muscle, and another in the axilla, gave painful evidence that the evil influences of the anthrax were radiating towards the chest.

I reapplied, very foolishly, the emollient poultice, and wore it through the afternoon. At eleven o'clock at night, feeling suspicious of great evil, I removed the poultice, and realized my worst fears. The skin was rapidly passing into the first stages of mortification, and more than half of the outer part of the hand, from the second joints of the fingers already spoken of, up to a short space above the wrist joint, was so livid in its appearance, and of such a deep purple, that I scarcely dared to hope that anything could stop the extensive sloughing. I immediately prepared a number of strips of cotton for the fingers, and broader ones for the hand and arm, wet them with cold water, rolled them, enveloped each finger and the thumb in a tight bandage, and then put a very tight one on the hand. I felt immediate relief from my suffering, and, for the first time in five nights, slept soundly. On removing the bandage from the hand, the next day, to tighten it, I found an entire change in the carbuncle. The mortification of the skin was checked, the threatened sloughing of the cellular tissue was gone, and the carbuncle was secreting a copious yellow, thick pus. I continued to use water-dressing and the bandage, and in the course of a few weeks, the hand was entirely cured, without the slightest sloughing of the cellular tissue, and without the use of cautery. Instead of months of suffering, and a long and tedious reparative process by granulation, I recovered from this formidable anthrax in a remarkably short space of time, and with

comparatively little suffering. I give this case as an illustration of the value of the bandage; I could detail other cases, in which its power was equally conspicuous.

Phlebitis of the Humeral Vein.—A few years ago, Mr. Charles Kastenbine was attacked with a formidable phlebitis, at the bend of the arm, several days after being bled. I found his arm swollen greatly, up to the shoulder, with violent constitutional derangement. There was severe and constant vomiting, great agitation of the system, and the palpable evidences of the rapid approach of the phlebitis towards the region of the heart. Each finger was enveloped in a narrow bandage, and a wet roller was passed from the hand up to the wound of the arm. A compress, made of calico rolled tightly, was laid along the inflamed vein, up towards the axilla, and the roller was carried over this compress.

In the course of from two to three hours, the relief was manifest. The constitutional disturbance ceased, and all the dangerous symptoms disappeared. The bandage was removed next day. and a large quantity of thick, yellow pus was discharged from the wound in the arm. The bandage and compress were renewed, and in the course of two days more, the use of the arm was perfectly restored.

I cannot dwell with much minuteness upon the remainder of the affections that derive more benefit from the bandage, than from all other remedies. In my former paper on this subject, I referred to the immense superiority of the bandage over every other agent for injuries, and some of the diseases of the joints. Its merits will be conspicuous to all who may try its use in such cases. In wounds of the joints, sprains, dislocations, &c., its benefits are of the highest character. Fistulous abscesses, which have long resisted every other form of treatment, seem to feel the happy influences of mechanical pressure almost from the moment of its use. Contusions,

and lacerated wounds, of the severest character, that hold out hope of restoration under any treatment, will more certainly, speedily, and completely recover under mechanical pressure than under any other treatment; on these points I speak from a long experience, and from many comparisons of the bandage treatment, with other means. And I feel sure, that in proper dressings of varicose veins with the bandage, will be found the only certain cure of that affection.

I intended to pursue this subject, and enforce the use of the bandage in the treatment of gun-shot wounds, but that subject has been so well handled by the able and philosophical correspondent of this Journal, who writes over the signature of "C.," and the general principle of the treatment, and the usefulness of the bandage for gun-shot wounds, have been so frequently pointed out in my former essay on this subject, that I do not feel that it is necessary to say any more on the subject.

But I hope I may be indulged in the confident expression of the belief, founded on long and well observed testimony, that a careful study of the bandage is worthy the attention of all medical men; and I feel persuaded that he who is without the knowledge of its great capacity and powers, is without the possession of one of the most important elements of success in surgery.

REVIEWS.

Art. III.—*A Universal Formulary: containing the methods of preparing and administering officinal and other medicines. The whole adapted to physicians and pharmaceutists.* By R. Egleseld Griffith, M. D. Philadelphia: Lea & Blanchard. 1850.

This work is appropriately dedicated to Professors Wood and Bache, authors of the "Dispensatory of the United States of America." The labors of these gentlemen deserve all the respect and kindness that physicians can bestow on them, and Dr. Griffith has shown the possession of proper feeling, in this tribute to Drs. Wood & Bache.

We are not altogether confident that an increase of formularies is calculated to increase the armory of the physician, for the management of diseases. He is not the most useful in wealth, who has the most money; he that dispenses his means best, even if they are limited, is the best citizen. And that man's knowledge is most beneficial, that is used to the best advantage. Crowded formularies are apt to produce a jostling, and in the struggle to stand, it is possible that the worst may retain their feet. A formulary of mere recipes is not calculated to make thinkers; it does not materially aid the judgment, and may sometimes run away with the understanding.—The American practitioner has long been familiar with Ellis's Formulary, and it finds a place in almost every medical library, yet it would be difficult to say in what its special merits consist. Mayne's Dispensatory and Therapeutical Remembrancer," professed to contain "the entire lists of materia medica, preparations and compounds,

with a full and distinct version of every practical formula, as authorized by the London, Edinburgh, and Dublin Royal College of Physicians in the latest editions of their several pharmacopœias," and the American edition, edited by the author of the "Universal Formulary," before us, was "revised, with the addition of the formulæ of the United States Pharmacopœia"? It seems to us that a work thus copious, did not stand much in need of a successor at present. The work of Mayne had a great many excellent features in it, and Dr. Griffith said it gave a clear and comprehensive view of all the officinal preparations directed by the authorities referred to." What created the demand for another work of this kind we do not know.

But though we are not convinced that this "Universal Formulary" was an absolute necessity, we are far from wishing to depreciate Dr. Griffith's work. He has bestowed a large amount of labor upon it, and every department of the book bears witness to the extended research and untiring industry of the author. That there is no ordinary share of useless lumber in the work is very certain, but there is also a great deal of matter that is very useful.

The formulary is preceded by an introduction, which "contains tables and observations on the weights and measures employed for pharmaceutical purposes in the United States and in foreign countries, and an explanation or vocabulary of the principal abbreviations and Latin terms used by physicians in writing prescriptions, followed by observations on the management of the sick room, with rules for the administration of the different classes of medicines."

"The formulary is arranged alphabetically, according to the pharmaceutic names adopted in the United States Pharmacopœia; but in each formula, the English appellations for the articles comprising it are used, and the

quantities of these ingredients are expressed in words, and not in the usual pharmaceutic signs."

We consider the Introduction to the Formulæ one of the most valuable portions of this work. There is a reasonable portion of useful knowledge in it, compressed in a small space, and it is a kind of knowledge, in which practitioners are most likely to be defective. The remarks on the management of the rooms of the sick, though not an improvement upon Thomson's excellent work, are valuable to those who do not possess that work, and there are some useful suggestions on the proper administration of medicines.

Dr. Griffith says: "To facilitate a reference to the contents of the work, copious indices have been added, not only of the formulæ, but of the diseases for which they have been advised." Alas, the means for all the reference required by many, were too facile without the reflex indices! It is a railroad transit by the express train, and the locomotive will often fly from the track. For instance, under the name of ulcers, we have fifty-four distinct applications advised, when, if the experience and observation of the best surgeons of various epochs are to be relied on, not one of the fifty-four is useful or necessary.—Under the head of venereal ulcers, we have eight different applications, and among them is the following, purporting to be the recipe of an Italian physician, of no ordinary celebrity:

℞. Round brithwort,
Long brithwort,
Orris root, each half an ounce,
Opopanax,
Sagapenum, each two drachms,
Guiacum, four scruples,
Cloves, two drachms,
Camphor, three drachms,
Alcohol, ten ounces.

Macerate for twenty-four hours, and filter.

Our cotemporary, the Philadelphia Medical Examiner, "pleads to consummate ignorance in regard to the principles of combination, if any such there be, that suggested this formula," and we join in the plea. On what principle would a man employ this opopanax tincture? What condition of venereal ulcer would require its application? What are the principles of its action? We candidly acknowledge we know nothing on the subject. But we may take this very instance to show the evil tendencies of volumes of recipes. A practitioner wants a labor-saving machine to enable him to get along without thought. He takes Griffith's formulary, and is soon called upon to take charge of a venereal ulcer. Its peculiar condition, and the age, temperament, habits, mode of living, &c., of the patient, which he has to think of, are thrown aside, as unimportant matters; the important thing is that Griffith 's formulary has eight applications for such ulcers, and the heedless, idle, unthinking routinist, in accordance with the instincts of such persons, hopes a great deal from each of them. He is very regular, and commences with the mercurial ointment. After trying that awhile, and fruitlessly, he goes to the next in the list—the lotion corrosive sublimate; then to the yellow wash; the ointment cyanide of mercury; ointment of the red iodide of mercury, black wash, compound tincture of opopanax, and winds up with a plaster biniodide potass. and opium, about which time, probably, the patient winds up the prescriber. A worse aid to the proper study of practical medicine, than a book of recipes, does not exist. Those who lean on such things for a staff, soon come to the want of crutches, and we might as reasonably expect high attainments, in the skilful treatment of disease, to show themselves in a man constantly in the habit of cutting "cures" from the columns of newspapers, as in one who consults a book of formulæ in order to aid his prescribing powers. This is not the proper method for the

study of medicine; a fatal objection to it is found in the fact that it loses sight of the age, sex, temperament, habits, &c., of the patient, and leads men to prescribe for names of disease, instead of the symptoms. The practitioner, who is properly alive to his duties and responsibilities, will never content himself with practices of this kind; he will survey all that must be known of the case, in order to make up a judgment upon it, and physicians of this kind generally have knowledge enough of pharmacy and therapeutics, to prescribe, without resorting to the drilled matters of a formulary. The consequence is, that these books can do no great deal of good for those who could use them with judgment, but may do much harm in the hands of those who are unfit to prescribe either with or without the formulary. In the multitude of prescriptions for the same disease, some of which may be salutary in some circumstances, and baleful in others, a routinist may never strike the right one, except by the merest accident. We earnestly wish that some scientific Bailey could be found, of the capacity of the one appointed to stop the importation of adulterated drugs, who would superintend the "customs" of formularies, and restrain their contents within reasonable and salutary bounds.

But though we thus feel on the subject of formularies, we are not unmindful of certain merits in Dr. Griffith's work. We cordially join in the commendation of the "Medical Examiner," on the following points: "A large amount of useful and selected matters, well arranged, with the original observations of the author interlarded, is made to precede and follow the formulary proper:—among these are the subject of weights and measures, domestic and foreign; specific gravity; temperatures; vocabulary of words employed in prescriptions; observations on the management of the sick room; doses of medicines; rules for the administration of medicines; management of

convalescence and relapses; dietetic preparations; list of incompatibles; posological table; officinal preparations and directions; bloodletting; poisons; index of diseases and their remedies, &c., &c."

The portions of Dr. Griffith's work, which treat of these subjects are really valuable, and are worthy of attention. They may be consulted with advantage by those who will feel no inclination to resort to the formulary, and if that part of the work were a sealed volume, the remainder of it may be considered a valuable contribution to practical medicine. It is very greatly in advance of all its competitors, and is worthy of confidence and use in the portions we have commended.

This work consists of 567 pages; it is well printed and substantially bound, and is quite free from the blemishes of typographical blunders. It may be purchased at the bookstore of Beckwith & Morton.

ART. IV.—*The Annual of Scientific Discovery; or, Year Book of Facts in Science and Art*—Exhibiting the most important discoveries and improvements in mechanics, useful arts, natural philosophy, chemistry, astronomy, meteorology, zoology, botany, mineralogy, geology, geography, antiquities. Together with a list of recent scientific publications; a classified list of patents; obituaries of eminent scientific men; an index of important papers in scientific journals, reports, etc. Edited by DAVID WELLS, of the Lawrence Scientific School, Cambridge, and GEORGE BLISS, Jr. Boston: Gould, Kendall & Lincoln. 1850.

We had so little space to speak of this work in our April number, that we feel it incumbent on us to renew the subject this month. This is the first number of a work that is destined to be of the greatest utility to scientific men, and we hope that every lover of science, throughout the country, will feel it his duty to encourage

the editors to persevere in the good work they have begun.

The editors say: "The idea of preparing the present work was first suggested by the examination of similar works, which have been published in Europe for several years past. We believed that such a work could not fail to be useful to many persons, by enabling them to see at a glance, what has been accomplished during the past year, and thus showing them in what direction they can most profitably apply their labors. The language of Bacon, concerning one branch of science, applies with equal force to all its branches:—'Nothing is of greater efficacy in procuring a stock of new and useful inventions, than to have the experiments of numerous mechanic arts known to a single person or to a few, who might mutually improve each other by conversation; so that by this translation of experiments, arts might mutually warm and light up each other, as it were, by an intermingling of rays.'

"In the preparation of the Annual, nothing has been inserted except upon good authority. While many of the articles have not been previously in print, many others have been furnished directly to us by their authors, but have also been published elsewhere. In the exercise of a proper discretion, we have rejected some articles which it would, perhaps, have been well to retain; but the limits assigned to the work compelled us to omit much that we at first intended to include. We have, however, inserted nearly all that is at once new and important, which is to be found in the standard and scientific publications of America, Great Britain, France, and Germany."

In carrying out these purposes, we think the editors have shown great judiciousness in what they have retained, and we hope they have omitted nothing, connected with the design of the work, of any importance. From

a careful examination of the contents, we are impressed with the belief that the work is very complete. We select a few specimens of matters, of interest to medical men.

"*American Microscopes.*—Mr. Spencer, of Western New York, has hitherto been almost the only person in this country who has turned his attention to the manufacture of microscopes, and he has succeeded in producing some instruments of great power and excellence. Most of those, however, at present in use in this country are of foreign construction. About a year since, Mr. J. B. Allen, of Springfield, Mass., having had his attention called to the subject of microscopes, with true Yankee perseverance and ingenuity, set about the construction of one of these instruments. Although he had never seen but one microscope, and that only for a few minutes, and had never seen a piece of glass ground, he devised his own tools and processes, and, in the course of a few months, produced an instrument, which he exhibited to the American Association, at Cambridge, in September. The power of this instrument was about 1,300, and it received the most unqualified commendation of the distinguished men there assembled. Professor Agassiz, after a careful examination of it, made a report, in which he spoke in the highest terms of its excellence. This instrument was purchased by Amos Lawrence, Esq., of Boston, who liberally presented it to the academy at Groton, Mass.

By the advice of Professor Agassiz, Mr. Allen immediately commenced the construction of another microscope, with some improvements suggested by Professor A. This new instrument he completed in about three months. It was submitted to the inspection of Professor Wyman, of Harvard University, who carefully compared it with a similar microscope manufactured by the celebrated Oberhauser, and by him exhibited as one of his best instruments. The American specimen was found to be fully

equal, if not superior, to the European, and there can be no doubt that it is the most excellent microscope ever produced in this country.

"It may not be improper to mention, that Mr. Clark, of Boston, has succeeded in producing very fine telescopes, and that excellent chronometers are now manufactured in this country."

"*Further Researches on Electro-Physiology.*—We translate, from the Comptus Rendus of the French Academy, the substance of a paper by M. Matteucci, on electro-physiology. He commences by recapitulating the four principal points from which he started, and which, in some degree, form a summary of his former labors.

" '1. In each cell of the electric organ of fishes, the two electricities become separated under the influence of the nervous activity propagated from the brain towards the extremities of the nerves. A relation exists between the direction and the intensity of the nervous current, and the position and the quantity of the two electricities developed in the cell.

" '2. It has been shown by experiment that the greatest analogy exists between the discharge of electric fishes and muscular contraction. There is no circumstance which modifies one of these phenomena, that does not equally act upon the other.

" '3. The contraction of a muscle develops in a nerve which is in contact with it the cause by which the nerve excites contractions in the nerves throughout which it ramifies. Analogy leads us to consider this phenomenon a proof of an electric discharge developed by muscular contraction, though this has not been decided by experiment.

" '4. The electric current modifies the excitability of the nerve according to its direction: when propagated in the direction of the ramification of the nerve, it destroys

its excitability; but when propagated in a contrary direction, it augments it.

" 'I shall now confine myself to communicating a result which I regard as fundamental to the theory of electro-physiological phenomena. By a simple experiment, I have shown that an electric current, which traverses a muscular mass in the direction of its fibres, develops in these filaments a nervous current, which direction varies with that of the electric current, relatively to the ramification of the nerve. This is the reaction of electricity upon the nervous force. In discovering a new and very intimate analogy between the electric discharges of fishes and muscular contraction, I have shown that the nervous current develops the two electricities in a determinate direction, according to its own direction. In a muscular mass, the two electric states, diffused through the elements of its fibres, produce a current, whose direction varying with that of the electric current, is established, like the direction of the discharge in the torpedo fish, by that of the nervous current which excites it. This foundation of the electro-physiological phenomena I have taken great pains to establish.

" 'Whatever may be the nature of the nervous force, it is a fact that this force is propagated in the nerves, sometimes from the brain to the extremities, and sometimes in a contrary direction. It is probable that, when the muscles are contracted by our will, a nervous current is propagated in the direction of the ramification of the nerve; but, on the other hand, the nervous current follows an opposite direction when sensation is experienced by the stimulation of the extremities of the nerve.

" 'I have shown, in my former researches, by experiments, the great difference between the nervous and the muscular substance, as regards the conduction of the electric current. These experiments I cannot repeat, but will confine myself to one, which may be applied to the case in point. This experiment consists in introducing

the nerve of a sensitive galvanoscopic frog into the interior of a muscular mass, cut in the direction of its fibres. On passing a tolerably strong electric current through this mass, contractions are never excited in the prepared frog. It is then proved, that, when a muscular mass is traversed by an electric current, the nervous filaments diffused through the mass do not produce any sensible part of this current, so that the effects obtained can be due only to the direct action of the electric current upon the muscular fibre, and to the indirect action or the *influence* of the electric current upon the nervous force.—The following are these effects. If, in a living rabbit, dog, or frog, we expose the muscles of the legs, and pass an electric current from a pile of thirty or forty elements through the muscles, applying one of the poles to the upper and the other to the lower part of the leg,—if the positive pole is placed above and the negative one below, so that the electric current traverses the muscular substance in the direction of the ramification of the nerves, a very powerful contraction is produced, not only in the muscles of the leg, but also in those of the foot.

" 'These results can be explained in but one way. The very powerful contraction excited by the electric current proves the existence of a nervous current passing from the extremities towards the centre, and developed under the influence of an electric current which traverses the muscular mass in the contrary direction to that of the ramification of the nerve. These conclusions have an important connection with the law of electric discharges in fishes, which arise from the production of a nervous current by the stimulation of the nerve, which is distributed in the organ. But in the experiments described, a nervous current is produced by the electric discharge passing through the muscle. In the *discharge of the torpedo, therefore, the electric states are produced by the animal, while in the experiment the nervous current is produced by the influence of the electric current.*' "

"*Physiological Acoustics.*—In order to ascertain the causes of the same body communicating to our ear different tones at the same time, M. Duhamel has made the following experiment. A caoutchouc thread connected consecutively with different points of an oscillating plate, producing simultaneously two or three notes, was conveyed to one ear, while the other was stopped. He convinced himself that an impression of sound could arrive at the ear in this manner only, and yet all the notes were audible at the same time at all the different points. Hence Duhamel concludes, that if the oscillatory motion of one point be decomposed into several others, the ear is affected in the same manner, whether the component movements emanate simultaneously from several neighboring points, or from one point only."

"*Annihilation of the Smell of Musk by the Ergot of Rye.*—The emulsion of bitter almonds possesess the property of annihilating the smell of musk, and most of the cyanic preparations evince the same power. According to M. Mertot, a druggist of Bayeux, in Normandy, ergot of rye will produce the same effect. 'I had, said he, 'to prepare a number of pills, containing both musk and ergot,—hardly were the two substances mixed, than the smell completely went off, so much so, that the patient, who was not aware of the nature of the pills, only noticed the musk by the effects of flatulency."—*Journal de Chimie Médicale.*

These extracts will serve as something of an indication of the character of this excellent and very useful book. We hope that no one of our readers will hesitate about ordering the work. The remittance of one dollar to the publishers, Gould, Kendall & Lincoln, of Boston, will secure the transmission of the book, by mail, free of postage.

ART. V.—*A Practical Treatise on Inflammation of the Uterus and its Appendages, and on Ulceration and Induration of the Neck of the Uterus.* By JAMES HENRY BENNET, M. D., M. R. C. P., Physician-Accoucheur to the Western General Dispensatory; formerly House-Physician (by concours) to the hospitals Saint Louis, Notre Dame, La Pitie, and La Salpetriere, Paris. Second American, from the second London edition. Philadelphia: Lea & Blanchard. 1850.

This is one of the most valuable guides in the treatment of the diseases of the Uterus and its appendages, that we know of. It is the production of a patient observer, and of a clear and accurate master of the science of diagnosis, in full possession of all the means for a perfect mastery of the subject. The former edition of the work was hailed with general approbation, by the medical profession; but the present edition is almost a new work.

The author claims a great deal of originality in various fields of investigation, and a careful study of the book, and an attentive observation at the bedside, will abundantly sustain his claims, and we earnestly commend this work to all who pay any attention to the diseases of females. It will be found eminently trustworthy.

The remarks of Dr. Bennet, on the use of the speculum in the treatment of the diseases of females, are amply confirmed by the admirable little treatise, written by Dr. Thomas R. Mitchell, of the Southeastern Lying-in Hospital, Dublin.

The admirable work of Dr. Bennet may be found at the bookstore of Beckwith & Morton.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

New Instrument for Operating on Hemorrhoids. By M. Amussat.—M. Amussat has invented a new instrument for the eradication of these troublesome companions. It is a small forceps, somewhat like a dissecting forceps.—The points, or rather the branches, for one-third of their length, are split, and receive two small hollow cylinders, which are charged with Vienna caustic at the moment of operation. The branches of the forceps are brought together by a screw, and the base of the pile attached by constriction and cauterization conjointly. When the instrument has acted for some time, a jet of cold acidulated water is directed on the part, to remove the superfluous caustic and allay the sensation of burning. M. Amussat has already applied his instrument in practice with complete success.—*Medical Times, July* 14, 1849, *p.* 28.

Impropriety of Frequent Operative Interference in Midwifery. By Dr. R. Collins, Dublin.

[Dr. Collins gives an account of 3847 labors attended by the late Dr. Joseph Clarke, of Dublin, in which he used instruments remarkably seldom. Dr. Collins says:]

It may be observed he only used the forceps once, and that without completing the delivery. If we seriously reflect upon the happy results to the mothers, from the practice pursued by this distinguished physician, as re-

gards the use of instruments, and then carefully examine the succeeding section upon children still born, and find here equally happy results (as of the 3816 single births, there was only forty-two children still-born, of those that had arrived at the full period of gestation, or in the singularly small proportion of one in 91), we cannot fail to discover a number of astounding truths, sufficient to warn our artificial advocates, and make them pause until they can supply their professional brethren with a series of facts equally satisfactory.

How seldom should most practitioners be found to use instruments, if the successful course pursued by Doctor Clarke were universally aimed at. Is it not worthy of our best consideration, with the invaluable statement before us, that, in an extended practice in the upper ranks of life perhaps unexampled, there is not *one single instance of death* resulting from laborious or protracted labor! This is a practical fact, which ought to be carefully recollected, and seriously weighed, by most of our continental brethren, who use instruments in every fifth, tenth, fifteenth, twentieth, or thirtieth labor under their care, with the object of expediting delivery; as also by some of our own countrymen, whose unsound doctrines, inculcating mischievous interference to promote hasty delivery, the unquestionable truths here recorded clearly demonstrate to be most unjustifiable and most uncalled for. Should not this inexpressibly important record forever silence those who venture to publish crude and fanciful opinions, unsupported by any data from their own experience, affording similarly happy results. It affords me infinite satisfaction to supply this truthful registry of facts for the universal and serious consideration of the profession. These truths speak in language the most convincing, and must, when studied, leave an indelible impression.—*Med. Gaz., July* 20, 1849, *p.* 122.

New Remedy for Leucorrhea.—In the Boston Medical and Surgical Journal, Dr. Braman states that for nine years he has been in the habit of using preparations of helonias dioecia (unicorn plant) as a remedial agent. He considers it particularly applicable in such affections as

have their origin in atony of the generative organs of both sexes—but particularly the female. "In leucorrhea," he says, "I consider it invaluable. I use it with a confidence I attach to no other medicine. Under its influence the patient, whose life has been almost a burden, soon revives. Her uncomfortable sensations vanish, and ultimately, an entire recovery of health and strength is established." It may be given in the form of powder, tincture, or syrup; but the latter is the most eligible.—The doses which Dr. Braman recommends, are of the powder, one drachm and a half; of the tincture, one fluid drachm; of the syrup, three fluid drachms. These doses are to be taken thrice a day, half an hour before the ordinary meals; and according to the urgency of the case, the quantity administered may be increased, if the patient bear it well. In irritable stomachs, nausea is sometimes produced; and when this occurs, the dose must be diminished.

On Opacities of the Cornea. By Dr. J. C. Hall.

[Dr. Hall remarks that it is very important to distinguish those opacities of the cornea which will require the assistance of art. He says:]

Opacities of the cornea, arising as they do from a great variety of causes, admit of division into three classes—

1st. Opacities resulting from the original structure having been destroyed by sloughing, or ulceration, followed by a deposit of opaque matter forming a cicatrix.

2nd. Opacities resulting from the application of a powerful escharotic.

3d. Cases in which opaque matter is deposited upon the texture of the cornea, without any previous loss of structure.

Treatment of Opacities of the Cornea.—Simple nebula of the cornea can be removed without much trouble by the daily application of a solution of nitrate of silver in distilled water—(distilled water, seven drachms; nitrate of silver, one to three grains; wine of opium, without the aromatic, one drachm.) Or what is better still, in more severe cases, by the following drops, which I have now been in the habit of prescribing very frequently during

the last ten years, and with much advantage:—Take of the bichloride of mercury, two grains; distilled water, an ounce: mix for a lotion, to be used once or twice a day. I would repeat, that whatever lotion be employed, it is far better not to drop it into the eye as we commonly see, even in hospitals; a camel-hair pencil should be dipped into the solution, and the opaque spot touched with it, by which means the remedy is at once brought into direct contact with the part to which you wish its operation to be confined, and that, too, without decomposition or dilutation from the tears, which must always be the case in the ordinary method.

Whoever has had much experience in diseases of the eye, will have observed that whenever any of these drops are employed for the purpose of removing opacities of the cornea, after a few weeks they appear to lose their useful effect, the disease becoming, as it were, invincible to them; I would, therefore, suggest that the nitrate of silver ointment, or drops, should be used for a week or ten days; then a weak solution of the bichloride of mercury; then the opium wine, and then the nitrate of silver a second time. This plan keeps up a continued state of improvement, and the disease is removed in a much shorter space of time than if one of them only had been persisted in.

When a patient comes before us with the worst possible form of opacity, leucoma arising, as is too often the case, from extensive ulceration, which has altogether changed the nature of the corneal surface, or with an extensive opacity, resulting from the application of a powerful escharotic, (which, although it may not have destroyed the vitality of the part, appears to have produced some chemical change in its structure,) it is quite labor in vain to attempt the cure of such an affection, and truly dishonest, time after time, to pick the pocket of the unfortunate patient of fees, by exciting hopes which can never be realized—hopes, the blighting of which, in the end, much increase his misery. Still, although this opacity cannot be destroyed by any means at our command, nor removed by the surgeon, this admission often only applies to the central portion of leucoma. In many cases we have the happiness to find the edges becoming gradually less and less opaque; a halo of hope surrounds

this dimness of vision, and although it may not be within the compass of our art to improve the more dense central portion, something may yet be effected with the surrounding edges; and I have been consulted in cases where a steady continuance in the application of remedies has most certainly produced very great benefit, and the results recorded in the archives of the profession are doubtless such as to justify their use in many of these unfortunate cases.

According to my experience, the most useful remedy is the nitrate of silver ointment, of a strength proportioned to the condition of the affected eye. Counter-irritation should also be kept up behind the ears or at the nape of the neck by blisters. Many advise certain ointments advise certain ointments or liniments, for producing irritation on the skin. I have little practical experience of their effects, but a very short trial of them most fully convinced me that they were very inferior to blisters. In the first place, several days must elapse before any useful influence can be exerted, and, in addition to this loss of time, which is often highly important, I am much mistaken if this St. John Long practice of applying plasters of tartarized antimony, &c., above the eyebrows, does not often produce permanently mischievous results, and too much care cannot be exercised in daily watching their effects, more particularly when applied to the head and face of young persons, in whom, in some cases, their application has been followed by a state of inflammation and sloughing which has even threatened the loss of life.

During certain stages of many inflammatory actions existing in the eye, setons and issues can be most advantageously employed. They are easily made by the surgeon, cause little pain or trouble, can be enlarged or diminished at pleasure, and being perfectly manageable, combine, within any limits we may be inclined to mark out, the advantage of a moderate degree of counter-irritation with a most salutary discharge. The advantages connected with the use of blisters are many—the convenience of their application—the rapidity of their operation—the quick subsidence of their effects when no longer required. There may, however, be cases in which, from peculiar irritability of the skin, from the liability of

the patient to attacks of erysipelas, or from their having, on some former occasion, produced a violent effect on the urinary organs, some other form of counter-irritation must be used, rather than blisters.

The following is the form in which I have usually employed the nitrate of silver ointment:—To take nitrate of silver, from three to ten grains; solution of diacetate of lead, twenty drops; lard, one drachm. This ointment must be used every night or every second night. A very small portion (not larger than a large shot corn) being put into the eye. It always creates more or less ophthalmia, and its application must be regulated accordingly.

During the employment of this ointment, I would in many cases most strongly advise the internal exhibition of the bichloride of mercury. When there is nothing to counter-indicate its use, I have given it for six or eight weeks in the following form, without any severe affection of the gums, irritation of the bowels, or any other symptom requiring that the dose should either be intermitted or reduced. Ordered solution of bichloride of mercury, one drachm; tincture of bark, one drachm; *distilled* water, seven drachms and a half. To be taken twice a day.

As an alterative, the bichloride or oxymuriate of mercury, though doubtless more frequently prescribed than formerly in these cases, is not, I venture to think, so extensively used as it ought to be. It can be given in solution, which is of considerable advantage, rendering its action much more certain, more equal, and by readier absorption probably more effectual in producing an alterative influence upon the whole system.

Dr. Holland remarks that he has "seen its influence in augmenting the secretions, procuring the absorption of morbid growths, altering the state of the skin in many cutaneous disorders, and changing the character of morbid actions generally throughout the system, in cases where he believes no other medicine or combination of medicines would have had equal effect. Its combination with bark, steel, sarsaparilla, &c., afford resources of the greatest value in the treatment of disease; and, though otherwise held by common opinion, he thinks it on the whole, as safe a medicine as calomel in the hands of the practitioner, inasmuch as its distribution can be made as equal and determinate, and its effects, from being given

in a state of solution, are much less likely to be interrupted by mechanical hindrances in the stomach and bowels."

I would also add, and it is worthy of note, that this medicine (bichloride of mercury) may be continued in uninterrupted use for a very considerable period, without obvious injury or inconvenience, and in certain cerebral and spinal affections, a long, unbroken course of this preparation, is of singular avail, but to reap its fullest benefits, we must be watchful, patient; and decided in its use, for in cases in which, in the end, the happiest results follow the administration of the remedy, the changes are often the slowest, and not testified by those instant and obvious results which are sometimes desirable to fortify even the mind of the physician in the perseverance proper to the practice, still more to convince the patient, his family, and friends, that time is necessary for the development of the full and complete advantages of the means employed. Thus it frequently happens that the patient, alarmed, it may be, at the name of the medicine, and by the precautions taken as to its dose and effects, or tired by the little progress he appears to make, refuses to go on with the remedy, very often at the moment when becoming most effective, and when there was every reason for thinking a dangerous or distressing malady would eventually yield by a further employment of it. I have many times seen the beneficial results arising from a long continued use of small doses of the bichloride of mercury, in solution, in chronic iritis, and also in several cases of paraplegia, the slow progress of the case giving full scope for its effects, and the great danger in prospect justifying a long trial of the remedy. Of course, in strumous children, mercury in any form can seldom be employed with advantage, and in treating opacities of the cornea in them, in addition to appropriate remedies to the eye, it will be necessary to strengthen the system by attention to diet, shower-baths, sponging the body with cold water, the administration of the disulphate of quinine, and a residence of some months during the summer, when the circumstances of the parents will permit, at the sea-side.—*London Lancet.*

Case of Malignant Tumor, of eight or ten years' standing, cured after two years by a strict diet of bread and milk; with remarks. [Read before the Boston Society for Medical Improvement, by Henry I. Bowditch, M. D., one of the physicians of the Massachusetts General Hospital.]

In accordance with your request, I copy for your Journal my notes of the very interesting case of Dr. Twitchell. I obtained them from him during my late visit to the Granite State, and he kindly allows me to publish them. Every medical man, I presume, is somewhat acquainted with Dr. T. He is one of the most noted of our New England surgeons. His circuit has a diameter of fifty miles—and he has always, even while suffering from the local disease I shall endeavor to detail, been able to drive a hundred miles, if necessary, in the twenty-four hours, and in his own carriage, over the hills of his native State. The medical history of his life is extremely interesting. I shall, therefore, give that, very briefly, before entering upon the consideration of this local disease.

1st. Carcinoma has appeared in his family. His grandmother died of cancer of the mammæ; his sister of a scirrhous pylorus. These are all the data of his hereditary tendencies that bear upon our main topic.

2d. In very early life, Dr. T. was in delicate health.—As a youth, he was stronger, and was among the foremost in all athletic sports. While at college, he became dyspeptic, had icterus, with enlarged liver, &c.; subsequently, he passed gall-stones. Whilst pursuing the studies of his profession, he began to suffer from asthma, and for about twenty years was very much subject to violent attacks of it, causing orthopnea, &c. During all this period he ate animal food very freely, three times daily, and digested it easily, whereas vegetable food caused dyspeptic difficulties. Being induced, owing to a severe acne of the face, to abandon this course, he gave up, for nine years, the use of meat. From the period at which he first abandoned meat, he has never had an attack of asthma, and Dr. T. considers these two facts related to each other, as cause and effect. Moreover, vegetable food was soon easily borne. After the nine years

of vegetable regimen, he began gradually to resume the use of the milder kinds of animal food, such as poultry and somewhat of the more solid meats, until two years since, when he commenced the very rigid diet, which will be described when treating of the local disease, which is the more immediate object of this paper. Finally, I will state, as indicative, perhaps, of the tendencies of the cutaneous system to morbid action, that about four years ago he had a papular eruption, lasting six weeks; and, likewise, that very many years ago he had a wart-like tumor on the scalp, which disappeared under the use of creosote, externally applied. I should have stated above, that the acne disappeared after the use, for some months, of a vegetable diet.

3d. The local disease, the course and result of which, I present as the chief object of interest, commenced eight or ten years since, as a small but hard tumor at the internal angle of the right eye. When first noticed, it was about as large as a mustard seed, and not painful.—He occasionally touched it, and had some suspicion that it might eventually prove to be of a malignant character. It was imbedded in the substance of the cutis, and from the first seemed very slowly to augment in size. At times he *thought* he felt some lancinating pains in it, which radiated to the brow. It did not, however, interfere with the functions of the lachrymal ducts, &c.—About 1843, the tumor had become nearly as large as a pea, and a tendency to the formation of a scab was observed. He then was induced to try some local applications, and frequently, until 1845, used Jennings's ointment. This would remove the scab, and displayed three small lobes, from which exuded a little purulent fluid.—At first the morbid growth seemed lessened by this and other milder applications, but no permanent effect was produced. At times, the discharge ceased, but only to return again, and the tumor gradually lost its trilobed aspect. It was, at this period, quite conspicuous to every bystander.

August, 1845, Dr. Geo. Hayward, of this city, removed the major part of it with the scalpel. For a short time, the wound seemed doing well; but, finally, it did not heal, and two months afterwards it was operated on again, and nitrate of silver was applied. Meanwhile,

however, there had been experienced much local pain.—It was deeper seated, less transitory, and radiated towards the brow and cheek. Sometimes it was severe enough to awaken him at night, and was worse usually after long journies.

The applications during 1846—7 were chiefly of a very similar character—cold cream, preparations of zinc, &c., and once the iodide of lead. All active applications caused inflammation of the conjunctiva. The tumor continued to augment slightly, and in the spring of 1847, it presented to my eye a decidedly malignant appearance. It was an ulcer, about the size of the top of the finger, with ragged, hard, elevated edges, and the irritation from the discharge caused the patient frequently to apply his handkerchief to the part. At night it caused a glueing of the lids and a discharge on the side of the nose. I certainly believed, and Dr. T. tells me that he thought, at the time, that the disease would gradually augment and involve the eye—and he had determined, if necessary, to have this organ extirpated. His general health, as it has been already stated, continued *good; but, when not* actively employed, the mind was somewhat depressed at the prospect before him. At the meeting of the American Medical Association in Philadelphia, May, 1847, he consulted several of the eminent men whom he met; and I believe, I may say, that all regarded it as a disease of a most serious nature, although some thought it might be cured by local applications, and others advised a further operation.

Dr. T. returned home discouraged, and he decided to give up all use of medicines internally or of external applications, but to try a course of the most rigid diet.—Starting from a theory that malignant diseases arise from the fact that we take too much carbon in our systems, he determined to live from that time upon a bread and milk diet; and if at the end of some months he did not find any diminution in the disease, he still determined to use nothing but bread and water. Since his return from Philadelphia, he has strictly adhered to the bread and milk. He has used three times daily from four to six ounces of cream, or the richest milk, and the same quantity of either white or brown bread. He continues that diet still.

The results upon the local disease have been as fol-

lows:—The pains in the part were lessened almost immediately. The purulent discharge very soon began to diminish, and in two or three months it was evident that the disease was not augmenting. During the following winter the improvement was more decided. In the spring of 1848, being obliged to ride over dusty roads to great distances, the eye was more irritated. Nevertheless, he felt, and his friends assured him, that the diseased part was really lessening and tending towards a cure. Since that period a steady improvement has taken place. The ulcerated mass, which was so perceptible to me two years since, has wholly gone, and now (August, 1849) I can discover no difference between the angles of the two eyes, save that in the right one there is a minute white spot, about a line in diameter, looking like a cicatrix. It is not harder than the adjacent parts, and had I not known of the existence of previous disease, I should not have noticed even this. There is no discharge, no pains, and a perfect cure seems to have been accomplished of a disease that had been existing for about ten years, in a patient aged sixty-eight years.

The effects of this rigid diet upon the constitution, as a whole, are interesting.

In his mental estate, Dr. T. thinks he has been much less irritable than when he was *omnivorous.*

He had, at one time, an attack of vertigo (to which, however, he has been always liable), and finding that he was *growing corpulent* under the diet, he, for a time, took less of it.

He has always been as strong, as when indulging in a more generous diet.

He has been able to breathe better, having had less tendency to dyspnea.

His digestion has been good, but with a slight tendency to costiveness.

His organs of circulation have been unaffected.

Renal excretion, for years a little disturbed, as is not unfrequently the case in persons of his age.

Finally, Dr. T. presents, to my mind, the picture of a hale, robust man, in perfect health, so far as one can perceive, and but slightly touched by the influence of his many years of honorable and successful labor.

Reflections upon Dr. T.'s case.—The most important

topic involved in the foregoing record, is the restoration to health from what seemed to be malignant disease, and that this result followed the strict diet of bread and milk for two years.

2nd. The cessation of asthmatic difficulties, after they had troubled the patient for twenty years, and that this cure likewise followed the change of diet—from an almost strictly animal diet to one quite the reverse, viz: strictly vegetable.

3d. Some readers may ask, if these two cures are not merely examples of the "post-hoc;" and they may deny that there is any complete evidence of the "propter-hoc." I consent to the doubt, for it has entered my own mind. Nevertheless, if they are mere coincidences, they are pregnant with important suggestions. I confess that, in my own practice, I have never met with any cases so significant of the power that diet, simply and heroically used, has to *re-organize* a man.

4th. Dr. T.'s case becomes interesting as an evidence of the power of a man to subject his body to strict rule. In this epicurean age, it is quite refreshing to find one who "eats to live, and does not live to eat." A worthy professional brother, of this city, said, when the case was related to him, "It might certainly be a question whether life was desirable under such a regimen?" I honor a hero wherever I find him, and the heroism of Dr. T., in undertaking and pursuing this course so long, merely in consequence of a theory, excites in me the greatest delight. In this sceptical, unbelieving era, I like to see any one having *faith*. Whether the theory was correct or not, it matters little—the fixed will of its follower arouses my enthusiasm; and this brings me to another topic of interest.

5th. The theory which governed Dr. T.—was it correct? I confess that I am unable to solve the question; I merely suggest it. Some, whom I consider as our ablest animal chemists, think that it was by the process of starvation, as described by Liebig, that the cure was wrought. It seems to me that this cannot be the true explanation—for Dr. T. has always been stout, and it will be remembered that at one time he actually gained flesh under the diet.—*Charleston Medical Journal.*

THE WESTERN JOURNAL.

THIRD SERIES.—VOL. V.—NO. V.

LOUISVILLE, MAY 1, 1850.

A PROFESSORIAL THERSITES.

A character of this kind has recently taken us to task for not conducting this Journal in a way to please him, and, as a specimen of his "good breeding" and veracity, undertakes to make his readers believe that we had written the word "unbeknown" in our article on the bandage, when he knew it was quoted from the writings of a gentleman who published the report of a case, in 1838.

The quarrelsome genius, to whom we refer, is in great agony because his Agamemnon has received some fancied slight at our hands. We owe the spirit of the scolding neither excuse, explanation, nor apology. But our exemplar seems to feel that he owes a disclaimer of any connection between his idol, and a malignant, vulgar, billingsgate specimen of slang that recently adorned a medical journal, which is now in the hands of our termagant. The disclaimer, however, amounts to nothing—*we know that it is false.*

But it is strange that after showering his malice and vituperation upon us, for not kneeling as low at the shrine of his idolatry, as he does, and after cackling at a terrible rate over a word, quoted from an article printed twelve years ago, our scold permits his idol to make a singular

display of his classics, in a medical journal, under the control of "the defender of the faith." If the reputation of the idol were half as dear to our doughty champion, as he pretends it is, he certainly would have paid some attention to the article on fractures, in the April No. of his Journal, and would not have permitted the article to appear in a style, in which typographical blunders, grammatical errors, and rhetorical sins strive for the mastery. We should not have attempted the ungracious task of pointing out these things, if the work had not been forced upon us as an act of self defence; and, even now, we shall confine our references to those blunders that lie upon the surface.

As a specimen of the typographical errors, the word bony is repeated ly spelt "boney." The entire essay is studded with typographical blunders, which an editor should have corrected, in an article written by one for whom he pretends to feel a prodigal esteem.

But grammatical errors also abound. On page 430, "removal and reapplication" are made antecedents to "this." The first sentence of a distinct paragraph, on page 438, reads thus: "*Fifteen days* transpired before *they* became so loose as to render it necessary to remove and reapply them, after the same manner." How did the fifteen days become loose, and how were they removed and reapplied? If "they" does not refer to the fifteen days, to what does it apply? And it must be a matter of curious inquiry how either one day or fifteen days could, by any possibility "transpire." Days have no epidermis for excretions to pass through. Transpire is strictly a medical term, and, as such, always means an excretion from the skin. When not used in its medical sense, transpire means the passage of any thing from a state of secresy to publicity, and it never can be used with any, the least approach to correctness, except in one of these two meanings. It would be just as proper to say that fifteen days sailed or rode on horseback, as to say they transpired. If our correspondent, "C.," so invidiously referred to by our assailant, has any special fondness for these things, he must be something more than a glutton, if he desires a more liberal feast than he can find in this recent repast. He may gather his pleasures here, as he would mushrooms in an autumnal pasture. On page 441, we read, "*one set* of muscles only *are* placed," &c. Again: "*its* mischievous effects," &c., "*is* familiarly known." On page 444, we have it: "as the disorganized *parts is* reduced." On page 450, we are told: "*a light regimen*, with a free state of the bowels, *were* enjoined." On page 432, we have an account of a patient, who, while on his way from

Lexington to a neighboring State, re-fractured his patella, and we are told: "Returning to town, after encountering some delay, I found the limb," &c. This would seem to show that the surgeon went to the country, and returned to town; when the writer was trying to say, that the patient returned to town.

Throughout the article, we find, scattered with a prodigal hand, such phrases as these: "Conclusion of the period," "conclusion of the second week," "conclusion of the sixth week," "conclusion of the fourth week." We should think that the merest tyro in philology would know that conclusion, in matters of time, cannot be used as a synonyme of end. The literal meaning of conclusion is the winding up of all arguments and reasoning, not the winding up of a week, or of any period of time, nor can it be correctly used in any other than its etymological sense.

This is but a portion of the classicalities referred to, and if a man's friends will thus treat him, what must he expect from his enemies? If any man ever had just reason for wishing to be saved from his friends, it is the victim of the bungling friendship before us. If the conductor of the Journal to which we allude, were as chary of the reputation of his idol as he pretends to be, he would not have permitted him to appear before the public in such a gala suit as we have described.

Another colleague of our scold appears in the same Journal, of which that colleague is also a conductor, in an article steeped in writing that would disgrace a schoolboy. We shall not dissect this rhetoric, but shall be content with a solitary specimen. On page 455, this lucid and elegant sentence occurs: "We are informed that important and fearful hemorrhages do not always immediately succeed to injuries of the kind, *but that they yet more times occur afterwards*," &c.

We think one specimen of that style is sufficient.

PROF. BIGELOW'S INTRODUCTORY LECTURE.—CLINICAL LECTURES.

We are indebted to Henry J. Bigelow, M. D., Professor of Surgery in Harvard University, for a copy of his excellent introductory lecture. We are especially pleased with the forcible and convincing manner in which Dr. Bigelow urges the importance of clinical instruction. On this subject there should be no difference of opinion among medical men; all should unite in an earnest endeavor to advance the interests of clinical instruction. One good clinical lecture may be worth scores of didactic performances, no matter how able the latter may be. We

would not disparage the value of didactic instruction; it is valuable, nay even essential in its place, but its importance is greatly lessened without it is connected with clinical teaching. And we confidently indulge the hope that the time will come, when the absurdity of attempting to teach medicine without clinics will be universally scouted.

On the subject of clinical instruction, Dr. Bigelow thus discourses:

"It has come to be questioned how far clinical instruction is essential to a course of medical teaching. Local interests or local exigencies have led to a discussion of the value of this method of imparting knowledge, and as seriously as if there were some doubt about it. Surely those who hesitate, do not consider the difference between words and things; between the aspect of a man himself and such a detailed description of him as the police might give; between visible and tangible disease, and a written history of it. No doubt an original fact and its description both gain access to the understanding; but there is a difference in the quality of the knowledge thus obtained. To value a possession, the mind must first have felt the want of it. Curiosity must first stimulate both its perception and its ability to retain. The mind asks a question, and is then polarized for the reception of a direct answer; and it is balked and wearied by an irrelevant reply. Now every protracted description, especially a lecture, is of the nature of a series of replies to which no question has been asked. A whole audience cannot ask or be answered at one time, and the alternative is to distribute information in bulk, that each may select something which will approximate his purpose.

"On the other hand, exhibit a case of actual disease, and every observer will put and answer in his own mind, and with the rapidity of thought, an endless variety of queries upon points in which, perhaps, he alone is deficient, and for the reception of which his mind alone is stimulated.

"Another point is more important. Sensible qualities must be described by reference to acknowledged standards; and we can thus measure heat, and space, and weight; but not shades of color, nor the attributes soft and hard, nor the varying outline of a curve. In the same way a personal examination will yield the qualities of an odor, a pulse, a tumor, an expression of the features, which pages of tedious description might fail to do. And the mind which painfully contemplates an abstraction, will seldom fail, at such a moment, to arrest some tangible association by which the abstract quality is permanently fixed.

"Clinical study is bed study. Here the student closes and grapples with the malady of whose Protean forms he has as yet only read. Here he learns at once the language of disease and the language of suffering humanity; and while his scientific sense is educated, his kindlier feelings are also developed. He learns to listen patiently, to sympathize; he learns to re-establish a facility in the manifestation of that stratum of kindly feeling which is generally upon the surface in early youth, but which sometimes, in the process of education, gets imbedded beneath a show of indifference and insensibility.

"The dialect of disease is an especial object of clinical study. Is a fever settled? Is a cough seated on the lungs? Is there water on the brain? Such questions are as significant as if conveyed in the language of recondite science. On the other hand, there are propositions less intimately according with modern views. What is the cause of this? asks one. Is this a scrofula humor? Is it in my constitution? These, or even the vexed question of biliousness, may well perplex the votary of rigid science. Such queries suppose the physician to possess a truly intimate knowledge of the human frame. In the words of Sir Thomas Browne, two hundred years ago, 'They foolishly conceive that we visibly behold therein the anatomy of every particle, and can thereby indigitate their diseases; and running into any demands, expect from us a sudden resolution in things whereon the Devil of Delphos would demur; and we know hath taken respite of some days to answer easier questions."

In our judgment, these remarks present the subject in a proper point of view, and they merit the attention of all who have any interest in the subject of medical education. There are two important features of clinical teaching, on which every student should inform himself: there must be clinics to afford illustrations to the teacher, and there must be a teacher capable of making proper use of the cases. One of these features is as important as the other; and unless both are combined in one school, the whole attempt is a failure. The possession of multiplied and various specimens of diseased actions is of no great value without a teacher capable of making them speak in the instruction of students, nor is even a renowned teacher of much value without the clinical means. With these combined values, and a door thrown wide open to students who wish to enjoy the benefit of hospital instruction, a medical school should command confidence and public support.

In our former number we referred to Prof, Bartlett's clinical course

especially, because our remarks were founded upon predictions made in the fall, and because he had been untried, in the West, in that department. We owe to Dr. David W. Yandell the expression of our thanks for the efficient and zealous aid he gave towards perfecting the course of clinical medicine, in the Marine Hospital, the past winter. He is entitled to the thanks of all who feel an interest in the progress of true science; that progress is based essentially on clinical instruction, and Dr. Yandlle's fine abilities in diagnosis, and in describing diseased movements have been conspicuously displayed during the recent course of medical lectures in this city.

An attempt is sometimes made, by those who have an itching palm for medical professorships, and very, very limited means for commanding the confidence of those desirous of being taught, to decry the common methods of clinical instruction, and the principle of *suppressio veri* is called into requisition. The representation is made that the only approach to clinical instruction is such as is obtained by hearing the lecturer describe the disease of the patient before the class. *This* is a manifest error. One of the chief values of hospital facilities is found in the means the students enjoy of seeing diseased actions in the hospital, and each one may make himself acquainted with the *condition of every* patient in the public wards. This, and the lectures of able clinical teachers constitute a fund of instruction that no falsehood can impair.

VETERINARY MEDICINE.

Dr. Edward Brooks, of Boston, who, three years ago, wrote for this Journal a highly interesting paper on veterinary medicine, returned, a few months ago from a protracted stay in Europe, where he devoted his time and fine talents to the study of the diseases of the horse. Dr. Brooks immediately entered upon the duties assigned him by the Legislative Agricultural Society, of Massachusetts, and has already delivered before that body, two lectures on the history and progress of veterinary medicine. We are pleased to find them mentioned in very flattering terms, by the public prints of Boston. In one of them he announced a series of lectures, of an extended and more practical character, for next winter. We but speak from personal observation, when we say that Dr. Brooks has cultivated the subject which he proposes to teach, with the most praiseworthy diligence and industry. We believe we but express the desire of every physician and humane man in the country,

when we wish Dr. Brooks's success may be equal to his merits, and that he may awaken an interest in the diseases of the horse, which shall lead to their being more generally and systematically studied.

DEMONSTRATIVE MIDWIFERY—THE BUFFALO MEDICAL JOURNAL.

Our valued and esteemed cotemporary, of the Buffalo Medical Journal, seems to have roused quite a professional warfare, by his approval of a specimen of demonstrative midwifery, exhibited before the graduating class of the medical department of the University of Buffalo. And we notice, too, in connection with this controversy, that the clergy, with their usual instincts and propensities for medical matters, have stepped forward to take a part in the affair, so that our friend Flint, if he should die in the warfare, will have the gloomy consolation of dying with the benefit of clergy.

We are really at a loss to understand the reasons for the extraordinary position assumed by the seventeen physicians whose names are appended to a letter, which appeared in the March number of the Buffalo Medical Journal, in which letter there is a bitterness of denunciation altogether unwarranted we think, by the circumstances. Such strong terms as "unprofessional in manner, and grossly offensive, alike to morality and common decency," are rather strong for use towards gentlemen, quite as able as the letter writers to appreciate what is professional, and what accords with morality and common decency. In our judgment, the letter writers agonized the matter quite enough, to say the least.

That there are circumstances which would make demonstrative midwifery open to such denunciations as we have quoted, we readily admit, but one of the plainest and most sensible rules of logic forbids us from arguing against the use of anything, from its abuse. As far as "we understand" the case that drew forth the denunciatory letter, there was no departure whatever from professional manner, nor from "morality or common decency." These are relative terms; what might be considered very indecent by one virtuous female, by another, might be looked upon in a different light. In the instance before us, the female acted voluntarily; no improper means were taken to procure her consent, and she was satisfied and pleased with the professional ministrations she received. Surely her judgment is worth something in a

matter of this kind; may we say that her satisfaction far outweighs the ponderous displeasure of her volunteer champions? There is nothing in the curriculum of a college that needs demonstrative teaching more than midwifery, and we regret that the opportunities for demonstration are so very limited. The seventeen physicians of Buffalo are evident ly not disposed to enlarge its means, and their views savor very much of the popular prejudices against dissections.

Dr. Bennet speaks very sensibly on a kindred subject, and his remarks may well be applied to the matter before us. He says: "In Paris hospital practice, the objections which exist in England to examination by the touch, or by the speculum, either are not met with, or are not allowed by those physicians and surgeons who pay special attention to uterine diseases; consequently, little more difficulty is experienced in appreciating, by their means, the symptoms furnished by the uterine organs, than in resorting to any usual means of investigation in diseases of other parts of the economy."

The indisposition of English physicians to investigate uterine disorders is thus referred to by Dr. Bennet: "That this laudable sense of propriety is, however, often carried much too far by the members of the medical profession with us, is well known to all who specially study uterine pathology." Is the practice thus commented on calculated to advance or retard medical science, or its healing powers? The answer is obvious, and that answer meets the case in the medical college of Buffalo.

We cannot withhold from Dr. Austin Flint the expression of our warm approval of his dignified, professional course. That he has the right side of the questiou, the strength of argument, and the force of professional precedents, we are well convinced.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

JUNE, 1850.

ART. I.—*Epidemic Puerperal Peritonitis.* Reported by WM. KENNEY, M. D., of Millersburg, Ky.

The panic of the epidemic of summer had passed—the public mind to tranquillity had been restored, and disease once more seemed to have passed away from our midst—autumn,

> "Crown'd with the sickle and the wheaten sheaf,
> ——————— nodding o'er the yellow plain,
> Comes jovial on,'

when a respite from the arduous and responsible duties of the profession, from the calm succeeding the storm, we hoped was in store for us. But before the winter,

> ——————— "in sable cincture, shadows vast,
> Deep-tinged and damp,"

sets fairly in, the energies and benevolent purposes of the medical profession were again brought into requisition, by an epidemic, to administer unto the maternal portion

of our community who had not, as yet, commenced the ordeal of a parturient female, or had scarcely finished the throes that nature in child-birth entails before they had visited upon them the prodromes of epidemic puerperal peritonitis, the declaration of which was soon in formidable array before us.

This truly Protean disease commenced its ravages in the latter part of November, continuing through December and January, carrying terror with it. But before entering fully into the consideration of the subject of our undertaking we will premise, and hope not without additional interest—a more detailed account of the disease by a reference to the epidemic of preceding years as has been noticed, in some of the works extant on diseases of females, from Hyppocrates down, (but to Dr. Denman, says a writer, the profession is indebted for the first distinct essay on Epidemic Puerperal Fever,) and in each year of its prevalence, though confined principally to populous cities, and the wards of lying-in hospitals, it has been marked by great fatality.

A gentleman writing about 1761, states that all women delivered by him in a lying-in hospital in London, died during the prevalence of the disease.

Dr. Leake, in his work on diseases of women, says: "That from December 13, 1768, to December 12, 1769, 180 women died. From December 12, 1769, to December 11, 1770, 270 women died. From December 11, 1770, to December 10, 1771, 172 women died."

Dr. Wm. Hunter says: "That of thirty-two patients who were attacked with the disease during two months, only one recovered. Various plans of treatment were put into execution—venesection, cooling medicines, cordials and stimuli."

Professor Young, of Edinburg, says: "In 1773, puerperal fever appeared in the lying-in ward of the Royal Infirmary, about the end of February, when almost every

woman as soon, or within twenty-four hours after delivery was seized with it and died, though every method was used to cure the disorder."

Dr. Dewees, of Philadelphia, in his work on Diseases of Females, 1827, says: "This disease very rarely presents itself as an epidemic in this country, and the only record of the kind recollected by him was that of Dr. Jackson, when it prevailed in part of Pennsylvania, in the fall of 1817, and the spring of 1818, and though treated with both vigour and ability, about one half died."

Other and more or less favorable accounts have been given of the prevalence of this disease down to 1842, by various writers coincident with the prevalence of epidemic typhus fever, or erysipelatus inflammation, but no other forms of disease, save catarrhal affections common to the season, were present during the prevalence of that which forms the subject of this report, and the most of those attacked trace the commencement of their afflictions back to the prevalence of epidemic cholera in August and September, from which time they say they have not known a well day.

Though our field of observation was confined to that of a country village, where the cases were not so numerous as would have been during an epidemic of the kind in the wards of a lying-in hospital in a populous city, yet the loss was equally as severely felt, and the fatality as great in proportion. But nothing, however, occurred to support the opinion of the contagious character of the disease, contended for by some writers, farther than the fact mentioned by Dr. Condie, of Philadelphia, who says: "How otherwise can be explained the circumstances of the disease, in one district, being exclusively confined to the practice of a single physician, extensively engaged in obstetrical practice, while no instance of the disease has occurred in the patients under the care of any other accoucheur practising within the same district."

The majority attacked were of a delicate conformation with the scrofulous diathesis—more or less predominating, and varying from twenty to thirty-six years of age—occupying elevated positions in society, and blessed with an abundant means of comfort.

Abortions after the first month or six weeks of gestation, and premature labor, were occasionally to be met with during these months, and the majority of those attacked expressed themselves as not "looking" for some time yet, while others confined nearest the full term gave birth to children that to all appearance had been dead for days or weeks. Some again coming into the world, as supposed at maturity, presented for the first few days a promise to do well, but finally become jaundiced, and declined or wasted away as if with marasmus.

The labors in no instance, that we recollect, differed from ordinary labor of other seasons as to time, hemorrage or suffering.

The character of the disease that occured here, to a great extent, corresponded with that given to an epidemic, in some of the books as occurring in London, at Aberdeen, Leeds, Edinburg, and Dublin, with the addition of its adynamic or typhoid form. It appeared to effect primarily the peritoneal surfaces covering the uterus, and radiating from that point to other parts. The attack may be said, in some instances, to have taken place several days before, but in the majority of cases about the third or fourth day after confinement. The earliest symptoms denoting an abnormal condition of the system, predominating over that state of malaise the patient for some time had been accustomed to, were slight rigours, pain in the head and back, numbness of the extremities, acceleration of the pulse, flushing of the face, and increase of heat of surface, more or less abdominal pain and tenderness with internal heat and burning, diarrhea, with tormina and tenesmus.

Abdominal pain, heat, and burning, tormina, and tenesmus, diarrhea, or frequent and unavailing efforts at stool, with an occasional discharge of a little transparent mucous or muco-feculent matter, were the precursory symptoms of disease in those attacked before confinement.

The chill which rarely ever amounted to shivering, consisted rather of a sense of coldness on change of position, and was followed by flushing of one or both cheeks, increase of heat of surface and of thirst, burning of the palms of the hand and soles of the feet. The heat of surface soon subsided, followed by more or less partial perspiration, and rarely ever did it afterwards transcend the natural temperature of the body. The pulse attained one hundred and twenty beats per minute, small soft and compressible, generally, with a greater tendency to increased than diminished frequency.

Gastric irritability soon manifested itself as did bronchial irritation, with increased secretion of mucous of a semi-transparent or muco-purulent character; and in one instance the original disease was entirely lost sight of, and the patient carried off by ulceration of the mucous surfaces of the bronchia from deposition of tubercular matter, though the cough and bronchial secretion mostly, after a few days, became less harassing, and measurably subsided. The nausea and vomiting were truly obstinate and distressing, from the succussion it produced, and continued throughout the disease subject to occasional remissions and exacerbations. The matter vomited varied in character from a frothy saliva to transparent mucous, mucous of a tenacious and deep saffron-like color, and towards the termination in fatal cases the matter ejected became of a dark vitiated-like billiary matter.

Increased sensibility of the abdomen on pressure was early developed in the disease, confined at first to the hypogastric or iliac regions, and rather of a subacute and burning or aching character, as described by patients,

that gradually extended itself over the abdomen, subject, occasionally, to modifications, but never at any time entirely subsiding. Nor do we recollect of the pain becoming sharp, except preceding an operation, or after a paroxysmal attack, nor was the abdomen so tender as to not permit of the weight of an ordinary amount of bed clothing, in addition to the fomenting cloths and bran poultices. Nor was there any great disposition on the part of the patient to keep the knees drawn up, but most generally the patient laid on the back, with the head slightly raised, with an inclination to slip down towards the foot of the bed, except late in the disease when, from restlessness, there would be desire for a change of position for a time, on either side.

The enlarged uterus, in the majority of cases, could be felt through the integuments above the symphisis pubis, and more than probably a dip of the inflammatory action, in some instances, may have taken place into the proper tissue of that organ, as was found to be the case, as is reported by M. Duges and M. Lonnelle, in patients examined by them.

A tumid and tympanitic state of the abdomen was one of the earliest symptoms recognised on being called to a patient. The abdomen presented a smooth polished surface, with the convolutions of the inflated bowels, in the thniner subjects, readily detected by the eye.

The lochia varied, in some it was entirely suppressed, in others for a time only. In some it underwent no change, while again you would find patients for the first few days, at intervals, as if by an expulsive effort of the uterus, discharging semi-coagulated masses of blood; and several of my patients expressed themselves as having felt an escape of gas from the womb. The vaginal mucous membrane was hot and congested, with frequently a more or less offensive muco-sanguineous discharge.

The secretion of milk was invariably suspended, and

the mammary gland became perfectly flaccid, while the mother evinced no very great interest in the child.

The action of the heart, upon auscultation, emitted rather a feeble sound, and the pulse was one hundred and twenty strokes to the minute, increasing from one hundred and forty to one hundred and sixty, towards the close in fatal cases.

The tongue varied from a healthy appearance to a slight, thin, light colored coating, or a dark brown, dry in the center, and again you would find it with a red edge and tip, or of a deep, glossy, red color.

The thirst, after the first twenty-four or forty-eight hours, was not very remarkable, and drinks, when called for, were taken but sparingly.

Diarrhea was a constant accompaniment in the early part of the disease, and might be said, in many cases, throughout it, and in excess, yielding readily to no therapeutical means whatever. Relaxation of the sphincter ani, and involuntary discharges at an early period in the disease, were occasionally observed, and the diarrhea, instead of exerting a benign influence by its depletory action, as is supposed by some, resulted quite to the contrary. In some cases, after a time, the bowels yielded more kindly to the action of medicinal means, and the secretions acquired a more healthy character and consistence; coeval with which there was an improvement in the abdominal symptoms, in the state of the skin, and in the expression of the patient, without alteration in the force and frequency of the pulse. This condition formed a delusive truce, in the course of the disease, that was soon dissipated by the return of diarrhea, the precursor of renewed inflammation of a more acute character, acting, perhaps, on a more limited area, from the locality of the pain, and tenderness on pressure, which, at this stage of the patient's strength, lessened greatly the chances in their favor.

The dejections varied in consistence and character,

presenting, in the commencement, something of a mucofeculent character, succeeded by a more copious discharge of a cider-like nature, with a filmy, curdled matter suspended in it, that was ultimately, in the last few days of life, followed by thin, watery evacuations of a dark-green or copperas-like color, extremely offensive, and attended with burning and scalding pain, giving an increased amount of tormina and tenesmus.

The urine, in concatenating the history of the morbid secretions of the system in this disease, was found diminished in quantity, and varied from a healthy to a turbid and deep ley-like color, with a cloud of mucus floating through it; and cases were not wanting in which there was a partial suppression and retention, that required, for days, the use of the catheter. Its acrid qualities, too, were equally manifest from the expression of the patient in micturition, during the course of the disease, and gave reason to believe it, in some instances, the cause of retention.

The heat of surface, as has been before noticed, was not very marked after the first day or two, and the perspiration that frequently followed, presented nothing abnormal as to smell, but seemed partial in its appearance, and as life began to show the doubtful tenure by which it was held, the extremities became cold. Petechia presented occasionally; and, in all of the fatal cases, sudamina were abundant on the upper part of the chest, both posteriorly and anteriorly.

The intellectual faculties, in one or two instances, became disordered early in the disease, and finally in all.—The delirium was of a low muttering kind, and strange fancies possessed some of them, so much so as to give it almost a monomaniacal character. The chiming of bells in the distance, the music of a choir, or a buzzing noise in the ears of patients were frequently a source of annoyance to them.

The contour of the face was very little altered, save by emaciation, and nothing of the "face grippe" which is spoken of in the books was noticed. The color was rather pale or sallow, with an occasional flush of one or both cheeks. Emaciation was more shown on the body and extremities than about the face. The expression of the eye rather vacant and unmeaning; a picking at the fingers and of the lips and nose, and a constant disposition was remarked, in the more protracted cases, to adjust the bed-clothing.

Sleep was short and disturbed, the appetite failed, and the irritability of the stomach increased, so as to reject the blandest fluids. There was hiccough, and a great disposition to syncope on assuming the erect position.

In nearly all cases, the disease was of a subacute character, or a tendency to that form of inflammation, and its duration was from days to weeks.

Occurring, as this disease did, in private practice, the possibility of pursuing its study by postmortem examination was precluded, but it was evident that there was peritoneal inflammation, thickening and more or less effusion, with inflammation of the peritoneal surfaces of other of the abdominal organs, occasionally, from the location and deeper-seated pain and tenderness.

About two-thirds confined were attacked, and under whatever therapeutical means were employed three-fourths of the cases, that presented themselves, terminated fatally.

It had never before been our misfortune to meet with an epidemic of the kind, and we find in this some difference from the usual symptomatology as regards the pulse, pain, delirium, position, diarrhea, the tolerance of remedies, acuteness of the patient's sufferings, tenderness, and the state of the secretions. The malignancy differed from that of sporadic puerperal peritonitis, and from what we learn from reports, of its greater extent of mortality.

The plan of treatment found most available, in this in-

stance, consisted in fomentations; bran poultices; epispastics; free sponging with tepid water the body and extremities; mercurial frictions, as recommended by Armstrong, Vanduesand, and Velpeau; infusions of rhei and geranium maculatum, with laudanum; anodyne and astringent enemata; vaginal injections of warm milk and water; mucilaginous drinks; and stimulants, with attention to cleanliness, quietude, and diet.

Bleeding was but rarely resorted to, and then badly borne. Mercury alone, or combined with opiates in cathartic or alterative doses, rather aggravated the condition of the patient, by increasing the tympany and irritability of the bowels.

ART. II.—*A Sudden and Fatal Case of Purpura.* By NAPOLEON B. ANDERSON, M. D., of Louisville, Ky.

The case was that of a boy, Calmore Brown, æt. 9 years, born and raised in this city; free from predisposition to hereditary diseases. He had, previous to the present attack, been a robust, healthy lad; complexion fair; countenance expressive and intelligent; he had symmetry of body, with large and well developed chest.

On February 2d, he commenced expectorating a thick, tough, white, saline sputa, of which no notice was taken, as in other respects he was entirely well. On the 11th, he was attacked with a slight chill, which appeared to centre in the spine. This soon passed off, followed by a high fever; flushed face; pulse one hundred and forty; respiration quick, laborious and hurried, with natural sounds of both lungs; tongue coated, and red at edges and tip; fauces swollen, and of a dark color; the coats of the eyes natural, pupils dilated, and sensible to light. He complained of no pain, with the exception of an uneasiness over the orbits; bowels costive. Ordered hydrarg.

proto-chloride, grs. x., pulv. rhei, grs. iv., jalap. grs. v., made into two powders—one immediately administered, and the second in two hours, followed by oil ricini.

Feb. 12th, 8. A. M.—He has had three free evacuations from the bowels, of a dark, frothy character,—pain over the ileo-cecal valve; urine red, and depositing a brick dust sediment; fever abated; pulse eighty and feeble; tongue darker; pupils contracted and insensible to light; cold perspiration on arms and head; deathly pallor; delirious at times, but sane at intervals; movement of any of the extremities gave excruciating pain; the face, arms, hands, legs and feet were covered with purpuric patches, varying in size from a split pea to that of a dollar. Ordered warm mustard bath, with a desert-spoonful of the following mixture every two hours, in addition to warm brandy toddy and rich chicken soup:

℞. Mucilaginous acacia, ℥iij.,
Carb. ammonia, ℥i.,
Sulph. quinia, grs. xx.,
Aromatic sulphuric acid, q. s.

Misce.

The mouth and tongue were cleansed with fresh lime juice.

12th. 5, P. M.—Delerious, incessantly calling the name of his school teachers, and in trying to fight his play-fellows. Pulse, seventy, and becoming more feeble—pupils still contracted—tonsils same—tongue red at edges, and the surface covered with innumerable red elevated papilla—sordes on the teeth—cold perspiration—hands, arms, feet, and legs cold—cough for the first time appears—expectoration thick and dark—slight congestion of the lungs—the hemorrhagic spots fast increasing in size and number—legs and arms extremely painful—the uneasiness over the cecal valve increasing. Ordered same treatment—repetition of the bath; warm turpentine over the cecum—enema of tepid flaxseed tea ℥ss., oil terebin-

thina 3ss., tinct. opii. gtts. xxx, in two equal parts, to be administered half hour apart.

He died at 12 o'clock same night.

13th. 9, A. M.—Post mortem objected to. Whole surface of the body ecchymosed, with exudations of bloody mucous from the mouth and nostrils.

REMARKS.—This case presents itself to my mind as one of genuine *purpura* or *purples*, which, incorrectly, have been ranked among cutaneous diseases. Its external phenomena are such as to show conclusively that it is a hemorrhage; as pressure upon the spots does not efface the color, nor render it fainter, as it does that of inflammation of the skin. The hemorrhage takes the form of red or purple spots, when the quantity of blood extravasated in the same place is only a drop—and there is scarcely ever any prominence of the purple stigmata—they are livid blotches in appearance exactly resembling bruises—in fact, the anatomical condition of bruises and purpura is the same, changing from red to a greenish yellow—both the result of ecchymosis.

The profession is divided in opinion as regards the true cause of purpura, which difference has given rise to diversified theories. The author is of opinion that the disease is secondary, so far as it develops itself upon the skin—a result of a diseased state of the veins—a softening and breaking down of the different coatings of the entire nervous system—and that the ecchymosis is the result of an exudation of venous blood, with its extravasation into the whole cellular tissue, through the softened structures of the veins. Ecchymosis is seen on the mucous surface of the mouth, the throat, the stomach, the intestines, on the pericardium, pleura, and peritoneal investment of the abdominal organs, in the muscles, on the membranes of the brain, and even on the sheaths of the nerves; and with large extravasations of blood in the most vital organs of the body. Is not purpura, therefore, a

disease of the structure of the veins or arteries, or of both, with a contaminating quality existing in the blood, tending in the onset to disorganise their structure? I am of opinion, that taken as a whole, purpura is the result. This, however, is a mere hypothesis, an opinion respectfully expressed.

ART. III.—*A Case of extensive Fracture of the Skull and rupture of the meninges, with loss of substance of the brain, and subsequent recovery.* By JOHN SWAIN, M. D., of Ballardsville, Ky.

On the morning of the 13th of October, 1848, after early breakfast, David Forbis, aged 12 years, was found in a pasture, with his skull fractured, by a kick from a horse. Owing to the distance of all medical aid, and to avail themselves of certain necessary surgical assistance, the friends dispatched three messengers, one for Dr. Drane, of New Castle, another for Dr. Baker, of Shelby county, and a third for myself.

I saw the case in one hour and a half after the injury, and was immediately joined by Dr. Baker. We found the patient lying quiet; complained of a little pain; appeared perfectly rational, and answered all questions satisfactorily. His pulse and respiration slow, weak, and irregular; hands and feet cold. We gave him some warm toddy, and applied warmth to his feet. Shortly after taking the toddy he vomited his breakfast, unassimilated, together with a considerable quantity of blood, which had passed from the wound by the posterior nares and the esophagus, to the stomach.

At 10 A. M., we were joined by Dr. Drane, and upon consultation, after a superficial examination, decided, without dissent, that there was but little hope for recovery; but for our own credit, and that of the profession and the satisfaction of the friends, it became our

duty to treat the case as we would have treated it, had it presented the most flattering features.

The pulse had now improved a little, yet it could not be said there was positive reaction. We proceeded to make a more particular examination, and to dress the wound.

The blow covered the os frontis and the nasal bones, crushing the former, depressing the latter, separating the head from the face, and, making an external wound, reaching from the outer angle of the right eye, to the lesser cánthus of the left, sufficiently open to admit the passage of the finger behind the ball of either eye.

A portion of the frontal bone of the left side, which is by measurement one inch by one and a half, on its frontal face, including the orbitar arch, and a portion of the orbitar plate, one inch by four lines upon its orbitar surface, was detached from the surrounding tissues, and buried completely in the substance of the brain, displacing about a tablespoonful of the cerebral substance, which, was lost in dressing. Smaller portions of the supra orbitar arch of the right side were raised and removed. The lips of the wound were now drawn together by the interrupted suture, dressed with lint, a compress and common roller.

The examination did not change our opinion first expressed; but confirmed the impression of a fatal termination.

The dressing being accomplished, the patient said he felt quite comfortable. Twice, during the evening, he vomited considerable quantities of blood.

7 P. M. Pulse seventy, soft and regular, respiration twenty, complains of a little pain in his head, has urinated once.

10 P. M. Vomited blood, after which he rested quietly the remainder of the night.

14th,—morning. Pulse seventy-two, respiration normal,

feet a little cool, complains of some pain over the left eye, has urinated freely, bowels not moved, prescribed comp. ext. colocynth 3ss., ext. hyoscyami grs. x. Misc. Ft. mass. Div. pill. no. 7. One pill every four hours.

Evening, 8 P. M. Takes note of time by remembering the hours struck; pulse seventy-four, respiration normal, skin normal, excepting feet, which are a little cool, has urinated, bowels not moved, continue pills.

15th,—morning. Has slept tolerably well all night; pulse seventy-four, respiration and skin normal, feet a little cool, tongue has a light, white coat, complains of pain in the head, no operation from bowels; continue pills.

16th. Complains of his head a little; pulse eighty-four, skin hot, tongue still slightly coated, had three small operations from bowels, urinated freely; directed attendants to give a pill at 12 M. and 4 P. M., and to sponge the surface with vinegar and water; left a solution of tart. ant. et pot. to be given if fever increased, and some pulv. Doveri to guard against too free evacuations from bowels.

17th. Slept well most of the night; pulse ninety, respiration twenty, skin a little above normal condition; has taken sol. tart. once; evinces considerable intolerance to light; darkened the room.

18th. Pulse ninety, respiration twenty, tongue as yesterday, bowels moved by medicine, complained of severe pain in a carious tooth, had some pain in the bowels during the night, which gave way upon the application of an emollient poultice, and he slept quietly till morning.

19th. Face swelled, evidently from the decayed tooth, complains a little of his head; pulse eighty-four, respiration nineteen, tongue and skin normal, has urinated freely, no operation from bowels, has taken two pills, directed to take a pill every four hours till bowels are moved—cheerful and humerous.

20th. Rested well last night, complains of but little

pain; pulse ninety-two, soft and pleasant, tongue, skin, and respiration normal, urinated freely, bowels not moved.

To-day (8th day of the injury) met Dr. Drane, and removed the dressings for the first time, no swelling about the wound, which presented a healthy appearance; sutures "in situ;" that portion of the wound over the whole of the right eye, and a small portion of the opposite extreme, closed by the first intention; some sloughing, and the discharge of a little healthy matter; dressed the wound with simple cerate, compress and roller. Gave some rice.

21st. Complained of pain in his eyes for an hour after yesterday's dressing, owing no doubt to the amount of light admitted to accomplish it. Rested well all night. Dressed the wound as yesterday, found a free discharge of healthy pus. Pulse one hundred; all other functions normal.

22d. Dressed the wound, pulse ninety, no other change from yesterday.

23d. Pulse eighty-six, no other change; the sutures having given way I removed them and dressed the wound with adhesive straps. The quantity of matter discharged, was very considerable, much more than I had looked for, and continued in quantity up to 30th, when the wound commenced filling with healthy granulations, and daily improved up to December 8, at which time I discontinued my visits.

This patient is now apparently healthy, in the full enjoyment of all his natural faculties and functions, with the solitary exception of the sense of smell, of which, he is wholly deprived. He is not disturbed by the application of aq. ammonia to his nose, says, it feels a little warm, but not unpleasant. He has no recollection of any circumstance connected with the accident; remembers of speaking to a negro in the pasture as he went out, has an

indistinct idea of being brought home, but between these two points all is blank.

REMARKS.—In looking at the history of this case we are astonished that the patient should have recovered, and much more so, that there should have been no functional disturbance. The os frontis was so broken up, that it scarcely offered any resistance to pressure, but felt like jelly under the finger; a portion was driven into the brain, and the head and face separated. A blow, so severe and crushing, must have given a terrible shock to the whole brain. Yet, at no time did it suffer in the least, but appeared to be active in all its functions; and every organ moved on in the even tenor of its way. It is true, the bowels demanded some assistance; but would not a man, in health, require as much, if placed and retained in a horizontal position, for the same length of time? Reaction came on quietly and slowly; the pulse at no time exceeded a hundred beats, it came up gradually to that point, remained there about twenty-four hours, and daily receded quietly to a healthy standard. We can only account for the phenomena, by the quantity of blood lost in the beginning, being the probable amount requisite for a quiet course, and a happy termination of the case.

ART. IV.—*The London Lancet for April, on Fractures, Hemorrhage, and Gangrenous Ulcers.* By THEODORE S. BELL, M. D., Louisville, Ky.

In the February number of this Journal, an attempt was made to institute a comparison between the results of the treatment of serious injuries, as displayed in the best hospitals of Europe, and the results of the bandage treatment in the same kind of injuries. It is very clear, I think, that all valid medical logic, all the pathological characters of that class of diseased or deranged action,

for which the bandage was commended in the essay alluded to, and the vast benefits found exclusively in the principles of the bandage, restricted in their proper place, point emphatically and impressively to the necessity of urging the attention of medical men, to correct conceptions of the value of the roller as a surgical agent. I have been forcibly reminded of this necessity in reading the April number of the London Lancet.

In that valuable journal, the following cases are detailed: "Ligature of the Femoral Artery, for a Wound of the Anterior Tibial, followed by Amputation;" "Compound Oblique Fracture of the Tibia, with Comminuted Fracture of Fibula;" "Compound Comminuted Fracture of Tibia and Fibula, in the London Hospital;" "Gangrenous ulceration of the hand." The lessons derived from success are not always the most forcible and impressive; those that spring from fatal issues enforce themselves vividly on the mind, sometimes, and guide to better methods of treatment. Experience, observation and reading constantly urge the utility of the bandage, in a vast range of maladies and injuries, and I should hold myself recreant to science, in neglecting any useful opportunity for presenting this important subject to medical readers.

Impressed with these views, the reader of these remarks may find much valuable instruction in the following cases:

W. S. Davis, a Member of the Royal College of Surgeons, reports that a robust, temperate farm-laborer, æt. twenty-eight, accidentally wounded himself in the anterior part of his leg, with a reaping hook. The surgeon found the patient, about two hours after the accident, very faint from loss of blood, although the hemorrhage had been effectually arrested by a handkerchief, bound tight around the leg. This dressing was not removed by the surgeon, but in addition to the handkerchief, a tourniquet

was loosely applied over the upper third of the femoral artery, with directions to have it tightened in case of a return of bleeding. In four hours after this, the patient had rallied, and there had been no return of hemorrhage. The symptoms continued in this favorable condition up to the sixth day after the wound, when the hemorrhage returned, and nearly prostrated the patient before his wife could arrest the bleeding with the tourpiquet. The femoral artery was tied, and for two days the patient seemed to do well. On the third day from the operation, hemorrhage occurred again; on the fifth day the hemorrhage returned, and on the sixth day, being the twelfth from the time of the accident, this unfortunate patient was subjected to the loss of his leg. His surgeon was not at all satisfied that the patient had received the best treatment. In the report of the case, we find the opinions of several hospital surgeons appealed to, one of whom says: "I am not prepared to say the case could have been better managed. In nine cases out of ten, your first operation of ligaturing the superficial femoral artery would have sufficed to control all hemorrhage, but the tenth case (such I consider yours) has induced surgeons of authority to lay down the rule, that an artery, when wounded, should be cut down upon, and both ends secured; of course there are exceptions to every general rule, and your case might fairly be considered one."

Now I appeal to the readers of this Journal, to say whether it is at all probable that this patient enjoyed the resources of surgery in the treatment of his case? Was there the slightest necessity for a return of the hemorrhage, after its primal arrest? Is there any reason for tying up the femoral artery, for a wound of the anterior tibial? And finally, is it not humiliating to think that such a hemorrhage as this was so managed as to result in the loss of a leg?

These are the considerations that make this case so in-

teresting in reference to the treatment of hemorrhages by the roller. Of the power of the compress and *partial* bandage, we have ample proof in this case. If the surgeon had applied a roller properly to this limb, at his first visit, after placing compresses in their proper places, there would have been no kind of trouble subsequently. The hemorrhage was perfectly controlled for some days, with no better dressing than a common handkerchief, which acted as a ligature. If the whole limb had been enveloped in a roller, greater compression could have been made, if necessary, and the surgeon would have saved his time, his feelings, his arguments and appeals to other surgeons, and the poor laborer would have saved his limb. It is shameful that a temperate, robust farm laborer, aged twenty-eight years, should have received the treatment this man did from a member of the Royal College of Surgeons. There could have been no kind of difficulty in controlling the hemorrhage in this case, because we have proof of the fact in the details furnished, and we are constrained to say that the patient was a victim to a very bungling and outrageous surgery. Reader, be guarded, and do not permit such offensive practices to creep in upon your surgical management.

The next case, that deserves attention is one of "compound oblique fracture of the tibia, with "comminuted fracture of the fibula." This complication occurred in a man aged fifty-two. He fell into a saw-pit, and produced the injury. A piece of bone, one inch and a half, protruded through the stocking, and there was profuse hemorrhage, from a slight laceration of the anterior tibial artery. The tibia was broken downwards and inwards immediately above the inner malleolus. The fibula was broken above the outer malleolus, and again about two inches higher up. This serious injury was complicated with dissipated habits, and an ulcerated condition of the leg. The surgeon determined, very properly to give the pa-

tient the benefit of an attempt at restoration, without amputation. The means resorted to were *debridement*, a compress over the wounded artery, the use of Liston's splint, and the double inclined plane. This was continued four days, and on the removal of the applications, it was discovered that *the bone was protruding as badly as ever*. The reason given for this is: "*That the fracture being below the attachment of the soleus altogether, that muscle acting from the os calcis as a fixed point, pulled the superior fragment downwards and inwards.*" The reduction of the broken bone to its proper apposition, and the maintainance of the fragments in that condition, were the indications to be fulfilled in this case, and the means for obtaining these results are obvious. The pullics would have accomplished the reduction, and the roller would have perfectly controlled the soleus muscles. There is nothing in mathematics more certain than both of these facts. Yet the patient, in the case before us, had to submit to muscular spasms, which dragged the bone from its place, and extensive suppuration took place, in the vicinity of the ancle-joint. Upwards of a month after the accident, half an inch of the protruded bone was removed with cutting pliers, and nearly two months after the accident, the surgeon congratulated himself that he had at length succeeded in applying an apparatus which effectually controlled the muscle, and kept the limb in position! But under proper treatment this patient should have been walking about, at a time, when his surgeon had just discovered a method of controlling muscular action! This discovery was a combination of Liston's and Boyer's splints!

Dr. Carter, the surgeon in the case alluded to, says: "If you can only procure an apparatus which shall resist muscular action completely, you need not attend to position (*quoad* muscular action) at all; it becomes necessary only to relax the fibre when one cannot tire it out by

perfect resistance." The bandage has a greater capacity for "resisting muscular action completely," than any other agent in the hands of the surgeon, but no use was made of its powers in this case, beyond binding a splint on the limb. If the limb had been properly treated, we repeat, and we speak, not only from inductive reasoning, but from personal observation, this patient would have been saved from a great deal of suffering, and would have been walking about much sooner, than he is said by his surgeon to have been hobbling about on crutches. And the surgeon would, with the roller treatment, have turned out a limb, that would have been much better than "a wooden one." The patient seemed to think that his shortened limb, which made him a cripple for life, was so useful that "he would not exchange it for a wooden one for all Europe."

The above is an instructive case, and is well worth the study of the practitioner of medicine. From the pit-fall of bad surgery, manifest in this case, a great deal of useful instruction springs to our view, and urges us to avoid similar treatment, if we would avoid analogous evils. There is not a muscle connected with fractures in the human system, that cannot be effectively controlled by the roller, and the reader cannot fail to see, that all the serious defects of the treatment of the case, we have detailed from the April number of the *London Lancet*, arose from the inability of the surgeon to control muscular action. If the reader remembers the quotations made from Maclise, in the article, on the bandage, published in the February number of this *Journal*, and the remarks that accompanied Maclise's anatomical statements, he will feel forcibly impressed by Dr. Carter's case. The use of "splints" is a great hindrance to the progress of surgery, and an evil to patients, as a general rule. In a long experience in fractures, I have yet to see one that did not yield readily and properly to the bandage, with

but little trouble to the surgeon, and great diminution of the suffering of the patients, compared with cases treated in a different manner.

Another case somewhat resembling the one already detailed, is mentioned in the London Lancet for April. The case was treated in the London hospital. On the 30th of September, a boy, eleven years old, was admitted into the hospital, with a compound fracture of tibia and fibula, caused by his jumping out of a window, fifteen feet above ground. "There was a wound about three inches above the ancle joint, directly across the tibia, through which the fractured bone was protruding for about a quarter of an inch." The fracture involved the fibula, and "was of a very comminuted nature." There was a great deal of hemorrhage. Pressure was applied, *the limb settled on a side splint*, and a dose of opium administered. *Reaction was very considerable*, and towards the middle of October, three large abscesses formed along the course of the tibia. They were opened, and discharged a large quantity of pus. *The child's health now began to suffer;* he had quick pulse, flushed countenance, brown tongue, &c. The propriety of amputation was a matter of debate, but the healthy aspect of the wound, and the extension of the abscesses being such as to demand the amputation of the thigh, plead for delay. Stimulants, tonics, full diet, and *pressure upon the abscesses* were resorted to, and the limb was slung in the hospital apparatus. The sinuses healed, the boy's health improved, and, according to the report, is likely to do well.

In the foregoing case there is a repetition of those unnecessary evils that so constantly meet the reader in reports of European surgery. The youthfulness of this boy, the fracture near the joint, the hemorrhage, the "considerable reaction" which occurred immediately after the injury, all pointed to the necessity of the roller treatment.

That would have controlled the hemorrhage, and the reaction, and prevented all the constitutional suffering, connected with the formation of abscesses. There is one point in cases of fracture that cannot be too indelibly engraven on the mind of the practitioner, and that is, that his patient is always in danger, from the moment that he permits suppuration to take place in a fracture contiguous to a joint. There is no reason why pus should be permitted to form in any case of the kind, and it is as much the duty of the surgeon to guard against such a result, as it is to see that ends of fractured bones are in apposition, or to maintain them in that condition. The reasons for the danger of purulent collections, will be shown in a subsequent part of this paper.

The following is a case that is filled with impressive admonitions on the perils of suppurative action in a wound. The particulars of the case are gathered from the London Lancet for April.

A patient, aged forty-five, was admitted into St. Thomas's hospital on the 18th August, under the care of Mr. Solly, with a compound fracture of the fourth and fifth metacarpal bones of the left hand, with much laceration of the soft parts. The wound was received from a circular saw; the patient had always enjoyed good health, but was intemperate in his habits.

The hand and forearm were placed on a flat splint, and cold water dressing applied. "There was no sloughing, and he soon recovered from the effects of the accident." Up to the 16th September, the case is reported to have done remarkably well, not having shown a bad symptom. "The wound was healing fast; a healthy granulating sore about an inch long, and half an inch broad, remaining open." But stress is laid upon the fact, that on the 16th of September, a new nurse, who had just entered upon her duties at St. Thomas's, dressed the wound, "by applying straps of plaster very tightly over the whole sore."

There is an attempt to ascribe the untoward symptoms that supervened, to this interference of the nurse, but it is absurd to attempt such a thing.

The report goes on with a detail of the symptoms, from day to day. On the 19th of September the sore began to spread, and instead of adhesive strips and the bandage, the surgeon ordered a linseed meal poultice. On the day after, it appeared that the sore had spread much during the night, and commenced sloughing, attended with much pain, and some slight shivering. During the day the sore spread rapidly under the combined influences of ulceration and sloughing. "The hand swelled, and around the edges of the sore, for some distance, there was a dusky red inflammation of the skin. Much aching pain, the skin is hot, pulse one hundred and ten, full, but very compressible; face flushed; tongue dry and brown; appetite bad; head-ache, and great thirst." Here is a frightful array of symptoms, showing itself the day after pressure was removed from the sore, and a linseed meal poultice substituted. On the 16th, a slight change in the condition of the ulcer was attributed to the use of adhesive strips, but the surgeon does not seem to regard the great change he made in the treatment, on the 19th, as connected with the untoward symtoms that were coincident with the change of treatment. Nor do I regard these untoward symptoms as the result altogether of that change, but there is more reason for saying they were, than there was for ascribing "the angry appearance of the sore," on the 17th, to the use of adhesive plaster straps, on the 16th. If the hand had been dressed properly with strips, and a roller, and constitutional treatment had been commenced, on the 16th, this patient would have been saved. The angry appearance of the sore on the 16th, and the symptoms up to the 20th, showed that "diffused inflammation" had extended to the thoracic and abdominal

viscera, a species of danger that should never be lost sight of.

On the 21st, nearly all the symptoms were aggravated. The stale beer grounds poultice, and nitric acid applied to the sore, constituted the local prescription. The constitutional treatment was feeble almost to the verge of homœopathy.

On the 22d, 23d, 24th, indeed up to the 3d October, the case seemed to make no improvement. The constitutional symptoms varied somewhat, but the sore continued its sloughy condition. On the 4th the slough separated, and healthy suppuration was established. On the 11th the case commenced retrograding, on the 12th commenced sinking, *and, under an aggravation of the constitutional symptoms*, the patient died on the 14th. The *post mortem* revealed invaluable lessons. The wrist joint contained thick, turbid pus. The radial artery contained many patches of atheromatous, and a few of bony matter; its inner surface was rough, and the ulnar was in much the same condition. The brachial was slightly diseased. The basilic vein was filled at its upper part with thick, white, healthy pus. All the veins leading from the ulcer were swollen, and filled with pus, their coats being thickened. In the anterior part of the left lung, near its base, was an oval mass of purulent infiltration in its early stage; the air cells were filled with pus. The abdominal viscera generally healthy; there was recent lymph on portions of the peritoneum, and there was perforation of the intestines, in the terminal portion of the transverse colon, the mucous membrane of which was studded with ulcerations, in irregular patches.

Samuel Solly, Esq., M. R. C. S., made some clinical remarks on this case, that bring up the matter, which I wish to impress upon the reader's memory. Mr. Solly said: "*The veins leading from the wound were charged with pus. These vessels absorbed the pus, carried it into the*

system, and poisoned him!" This is certainly a more philosophical cause for the angry condition of the ulcer, on the 16th of September, than the one to which that condition was ascribed. The possibility of such results, as are found in the case under review, should admonish the surgeon against neglecting the only agent that can exercise any control over purulent secretion. If the hand had been dressed, originally, with the roller, and constitutional treatment had been resorted to, the wound could not have assumed an angry appearance; and even after the retrograde tendency manifested itself on the 16th September, the roller treatment would have prevented that dreadful state of things, that continued with varying results, up to the 14th of October. If the roller had nothing to commend it to the attention of medical men, beyond its power over purulent formations after fractures, injuries of the joints, gun-shot wounds, &c., it would still be the greatest blessing in the hands of the surgeon. It will not be out of place now to take a view of some of the phenomena of purulent inflammation. Of all the matters presented to the consideration of the surgeon, in treating serious injuries that are curable, the proper management of the case so as to prevent purulent secretion, or to control its movements, after it has taken place, is one of the most important. It is in this field of curative power, that the roller successfully vindicates its claim to the attention of the philosophic surgeon, and clearly shows how much nature may be indebted to art in the removal of evils in the animal economy. The great range of the usefulness of the bandage has been shown in my former essays on the subject, but its salutary, beneficent agencies in the treatment of purulent secretion have not been dwelt upon sufficiently.

As a proper preliminary view of the pathological phenomena, and effects of purulent secretion, it will not be considered amiss, if the reader's attention is called to the

microscopic revelations of the phenomena of purulent formation. Copland gives the following graphic account of these:

"The formation of pus in an inflamed surface or tissue takes place as follows, according to the observations of Kaltenbrunner, Gendrin, Carswell, and the author. In the field of a microscope the inflamed capillaries seem uniformly red, and the circulation in them is retarded or has ceased. Serum and coagulable lymph are effused in the areole of the tissue; and, if the inflammation is very intense, the exuded fluid is more or less colored by the exudation of red globules or of blood. The whole of the inflamed part is quite opaque. As soon as suppuration commences, the red color begins to disappear in various points, giving place to a yellowish granular-like matter in the capillaries, and connecting cellular tissue. In the centre of the inflamed tissue, several of the capillary vessels, which were obscured by the accumulated blood, reappear, some containing red, others yellowish-gray globules, which gradually become more distinct, increase in number and size, begin to move slowly, and, traversing the capillaries, arrive at the surface of the tissue, or at the edges of the solution of continuity, if this has occurred, in the form of globules of pus (Carswell.) Gendrin states that he has distinctly seen the globules of blood, after stagnating in the capillaries of the inflamed part, losing their coloring envelopes, becoming opaque, and assuming a grayish yellow color, approaching to that of pus; and that he has traced them moving slowly in the capillaries, and, as they advanced to the suppurating surface, gradually acquiring all the characters of pus. The observations of Kaltenbrunner agree with those of Gendrin as to the transformation of the blood-globules into the globules of pus, and as to this taking place *within* the capillaries; but they also seem to prove, what I have observed in several instances, that the red globules, or

blood, exuded in an intense state of inflammation into the areole of the tissue, undergo a similar change to that which takes place within the capillaries when the circulation becomes stagnant in them; and that pus may thus be formed *without*, as well as *within*, the capillaries of an inflamed part, the fluid portion of the secretion consisting of the serum of the blood. Kaltenbrunner even supposes that not only the blood of the inflamed tissue, but likewise a part of the tissue itself is converted into pus-globules."

"From these facts it is evident that, in an inflamed part, certain changes precede the formation of pus: 1st. A loss of the vital tone, or a change of vital action in the extreme capillaries. 2d. A retardation or stagnation of the circulation, and partial coagulation of the blood in them. 3d. A change of the blood-globules into pus-globules, and the discharge of the latter with a portion of serum on the suppurating surface. 4th. A similar change of the globules of blood extravasated in the inflamed part, these globules losing their coloring envelopes, and becoming the globules of pus."

There is scarcely a day of a surgeon's life, when it is not essential that these principles and facts shall be present to his mind. They are guides that lead him through intricate labyrinths; they are lights that enable him to "see by faith, and not by sight," and reveal vital knowledge to him, as perfectly as though it were an object of one of the senses.

In connection with these facts the following admirable remarks, on the changes observed in the blood in sthenic inflammation, are quoted from the British and Foreign Medical Review:

"I. *a.* The quantity of *fibrin* in the BLOOD undergoes a decided increase; the *plasticity* of the whole mass, therefore, but especially that of the liquor sanguinis, is greatly augmented. *b.* There is a corresponding increase in the

proportion of *white* corpuscles, which are present in large amount in the vessels of the inflamed tissues, and have a great disposition to adhere to their walls, but which are also present, to an unusual amount, in the entire mass of the circulating blood. *c.* The increase in the proportion of fibrin is chiefly a local action, exerted on the blood during its passage through an inflamed part, and probably effected by the instrumentality of the *white* corpuscles. *d.* There is usually an increase, not only in the *quantity* of fibrin, but in its *plasticity* or tendency to become organized, as shown by the greater perfection of the fibrous structure into which it passes in coagulating. This may consist in an increased attraction between its particles, which continues to operate for some time, causing contraction of the fibrous net-work, subsequently to its first production. *e.* There is also an increased attraction between the red particles of blood, causing them to adhere together in rolls more firmly and for a longer period than they do in healthy blood. *f.* To these two causes, usually aided in their operation by the slowness of the coagulation, all concurring to produce an increased tendency to separation between the red corpuscles and the liquor sanguinis, we may ascribe the production of the buffy coat of inflammatory blood. *g.* The increased *plasticity* of the blood is so constant a phenomenon of inflammation, that it may be regarded as essential to the presence of that state.

"II. *a.* On the other hand, the *formative power* of the inflamed TISSUES appears to be diminished; their usual functions, whether of nutrition or secretion, being completely checked, or insufficiently performed, or perverted in their character. *b.* While, therefore, an over-production of fibrin is taking place in the blood, there is diminished consumption or appropriation of it in the tissues. *c.* If the inflammation be severe in its character, the vitality of the tissues is so diminished as to cause, not only

a cessation of their formative actions, but also an increased tendency to disintegration, as shown in *suppuration* and *ulceration;* or positive death of a large part, as in *gangrene.* *d.* The depression of the vitality of the tissues sometimes appears to result from a previous over-excitement of it, as when inflammation follows excessive use of a part, or the application of stimulants to it; but it is sometimes the consequence of some directly sedative action, as that of cold. *e.* Hence both *determination* of blood and *congestion* have a tendency to produce inflammation; the one being a state of over-excitement, which is very prone to occasion subsequent depression, while there is at the same time a tendency to increased production of fibrin in the blood, the other being itself a state of depression of formative power in the solids, but not passing into inflammation, unless there be at the same time an increased plasticity of the blood.

"III. *a.* The MOTION OF THE BLOOD in the capillaries of the inflamed part is greatly retarded, as we might have anticipated from the impairment of the functional operations of the solids. There may even be a total stagnation of the blood in the capillaries of a considerable portion of the tissue, which will be followed by its death and disintegration. The degree of stagnation will depend upon the amount of the depression of the vitality of the surrounding parts. *b.* The motion of blood through the vessels in the neighborhood, however, is more rapid than usual, and these vessels are themselves enlarged; so that the total quantity which passes through an inflamed member in a given time is greater than usual. *c.* The vessels are enlarged both *in* and *around* the inflamed part, in consequence of a diminution of the tonic contractility of their walls, which causes them to admit of abnormal distention by the impulse which the blood receives from the heart. This diminution is another evidence of the depression of

the vital properties of the solid tissues in an inflamed part.

"IV. *a.* The PRODUCTS of inflammation differ from those of the ordinary processes of nutrition and secretion, not so much in their materials as in the nature of the change which these have undergone. *b.* When the intensity of the inflammatory process is moderate, the *liquor sanguinis*, containing an unusual proportion of fibrin, and possessing a high degree of plasticity, is effused into the neighboring tissues or upon the neighboring surfaces, being generated, by the local actions of the part, faster than it can be withdrawn by its formative processes. By the organization of which it is susceptible, when in contact with the living solids, it spontaneously assumes the form of simple fibrous tissue, constituting false membranes on the surface, or consolidating the substance into which it is effused. *c.* If the inflammatory process goes no farther there is no disintegration of the original tissue; but if its vitality be too far depressed it dies; and the changes which it consequently undergoes impress themselves upon the fibrinous effusion. The fibrin loses its vital power of coagulation, and in this aplastic state becomes the chief ingredient in the *liquor puris;* while the cells *(pus-corpuscles,)* which are found floating in it, resemble the white corpuscles of the blood in a degenerated form. *d.* When the inflammation is very severe, and the stagnation of blood in the capillaries of the part is complete, an entire loss of vitality in the whole tissue at once, or *gangrene*, is the result. Gangrene does not originate, however, in inflammation alone, since any other cause, such as the long-continued action of cold or pressure, interrupting the capillary circulation, or obstruction to the supply of blood through the arterial trunks, will equally produce it, by the suspension of the formative processes thus occasioned. But unless some degree of inflamma-

tory action, that is, an increase in the plasticity of the blood, be set up at the same time, there is an indisposition to the formation of the line of demarcation between the sound and the dying parts, and the gangrene has a tendency to spread."

The subject is now fairly before the reader, and he can have no kind of difficulty in seeing why the bandage has all those important and invaluable uses, ascribed to it by all surgeons who have enjoyed an experimental and observational acquaintance with it. It is difficult to imagine how anything else in the treatment of the most usual fractures, the generality of ulcers, and a variety of gun-shot wounds, was ever thought of. What kind of comparison can be instituted between the treatment of fractures by splints, and by the roller; of ulcers, by hundreds unguents, and by the adhesive strips and the bandage, and of gun-shot wounds, by those means that invite gangrene, and the roller, which prevents it? Who can look upon the phenomena of sthenic inflammation, so graphically and clearly described, in the above quotation from the British and Foreign Medical Review, and imagine any surgical agent that boasts a thousandth part of the beneficent uses of the roller?

But there are other important considerations that belong to this subject of purulent secretion. From the facts contained in the quotations above, it is clearly seen how beneficial the bandage may be in its control over the local phenomena of the formation of pus, but this is of small moment compared with the constitutional effects. These effects are very conclusively shown, in an essay on "Secondary Abscesses," published by Dr. John Watson, in the American Journal Medical Sciences, and quoted by Dr. Lee, in the American edition of Copland's Dictionary of Practical Medicine. The reader will necessarily have to travel over some of the ground he has already been over, but he had better do that once too often, than not

often enough by one time. Dr. Lee thus quotes Watson:

"By a variety of cases, whose history is given, Dr. W. shows: 1st. That injuries and surgical operations not dangerous in themselves, may be followed by severe, and even fatal, secondary affections in distant parts of the body, and in organs essential to life; and that the pathological states, thus induced, are not necessarily connected with a previous external injury, inasmuch as they may be induced, independent of such injury, by disease arising spontaneously in the system. 2d. That the most usual pathological appearances found after death in these cases are: depositions of purulent matter, inflammatory congestions, effusions of coagulable lymph, sero-purulent effusions, effusions of sanies or bloody serum, adhesions of contiguous surfaces, ulcerations, and disorganizations of different structures, as of the eye and of the tissues about the joints. The whole of these pathological conditions are not often found existing together; many of them, however, may occur in the same case; the tissues within which these morbid changes are most common are the cellular tissues, whether subcutaneous, parenchymatous, or intermuscular; the serous tissues, as of the thorax, the abdomen, and encephalon; the synovial membranes, the skin, the muscular texture, &c. The organs most frequently affected are the lungs, the liver, the brain, the spleen, and the knee and shoulder joints, but almost any part of the body may become the seat of these secondary disorders. 3d. In all cases of the kind under consideration, where thorough examination was made, the inner coats of the veins in the neighborhood of the primary injury, and in other parts of the system, were found inflamed. In some cases the arteries also were found diseased; but inflammation of the inner coats of arteries, unlike that of veins, appears to have no necessary connection with the other consecutive affusions. 4th. That

in cases of secondary abscess, and other consecutive disease connected with inflammation of the veins, purulent matter was generally, but not in all instances, found within the cavity of the veins. It is not yet fully established whether phlebitis is always attended with secondary local affections; though there is considerable reason to believe that such is the fact. 5th. That the purulent matter formed within the veins may be either blocked up by a barrier of lymph, or exist in a free state, without any such barrier to prevent it from entering into the circulation, and contaminating the blood. But the secondary abscesses are known to occur in connection with phlebitis, whether the pus in the veins be free or circumscribed; and even when no purulent matter has been detected, either in the original wound itself, or within the veins leading from it. 6th. That purulent matter existing free within the cavity of the veins does not necessarily lead to the formation of secondary abscesses in the viscera. 7th. That besides these secondary disorders connected with phlebitis, there are others occasionally resulting indirectly after operations, &c., of an entirely different description, and so far as we are able to judge, in no way connected with disease of the veins. Such, for example, as appear during the existence of high inflammatory excitement, or come on more slowly after the system has been much exhausted by contracted disease and hectic fever.

Dr. W. maintains that secondary depositions, and other pathalogical phenomena connected with them, are not, in all cases, if indeed in any, simply the result of absorption, and subsequent transposition of pus from a remote part of the system; and that as they occur in all parts of the body, without any definite relation to the part primarily affected, they cannot be attributed to any special sympathies between the parts first diseased and those subsequently affected; rejecting also the doctrine which

imputes local violence to the part secondarily diseased; as well as that of constitutional irritation, which, besides its indefiniteness, throws no light on the manner in which the constitution becomes involved. Dr. W. believes that the doctrine which ascribes secondary abscesses to a vitiated condition of the blood, induced by the purulent matter, or other morbid exhalations of inflamed veins mixing with the blood, and thus exciting local inflammation in the parts secondarily diseased, is the one most conformable to facts, while, at the same time he admits that matter, formed originally within the veins, may subsequently be thrown out of the circulation as any other foreign or useless substance, without exciting local inflammation in the parts upon which it is deposited. The existence of pus in any part, is no proof of the previous existence of inflammation in that part."

The reader will not find his labor in vain, if he rises from the perusal of these valuable facts, with clear views of their great, their vital importance. And when he becomes an expert in the philosophical and scientific use of the roller, and sees the manifold benefits of its application, and feels by comparison, how much of suffering, and how many perils, and other evils, he has saved his patient from, he would not exchange that simple agent, for all other appliances known to surgery, in these cases.

But let us resume an examination of some of the details of the phenomena of purulent secretion. The case in St. Thomas's hospital, of which an abstract has been given in this paper, is a most valuable one in connection with all the facts and observations brought forward here, on the subject of purulent secretion. How impressively does it corroborate the conclusions of Dr. Watson! With a hop and skip philosophy that has loaded practical medicine with mountains of error, the surgeon of St. Thomas's took it for granted that the coincidence of two circumstances, stood in the relation of cause and effect! He

assumed, that because the patient got worse on the 17th, the change was the result of strapping the hand, instead of using a poultice! That was a fatal piece of false logic, and led to all the subsequent disasters of the case. I think this will be manifest to any one, who has read the report of the case of carbuncle contained in the May number of this work. In that report, it is shown that a violent form of gangrene, accompanied with grave constitutional symptoms, came on while the linseed meal poultice was on the hand, and that a change of local treatment, consisting of a tight bandage to each finger and the thumb, and a roller to the hand and forearm, immediately stopped the gangrene, and relieved the constitutional disturbance. And I am as perfectly persuaded that a kindred result would have followed the same treatment, in the case in St. Thomas's hospital, as I am of any truth in therapeutics. There is not a solitary fact, connected with the subject of inflammation and purulent secretion, that does not indubitably show this to my mind, and all my experience and observation corroborate the view.

Upon these points it may be useful to detail a case which passed under my observation recently, and which was watched with considerable anxiety. A young man, for whom I entertained a warm friendship, was attacked some months since with a swelling in the inguinal glands, which terminated in a copious purulent secretion. The case was not venereal. From various causes, such as business that required him to travel, my patient's case was protracted until three large sinuses presented themselves, in the abdominal parietes. Two of these sinuses were nearly perpendicular, the other was transverse, occupying about five inches in length. They resisted all the usual means of relief, and became so threatening, that I had to confine the young man to bed. A roller was placed on the foot, and passed up the leg, to the vicinity of the sinuses. Adhesive straps were drawn lightly

across the sinuses, and thick compresses laid over them, so as to command them from the bottom, to their open end. Over these the roller was drawn tightly. Purgative medicines were ordered, consisting of blue mass and ext. colocynth, in sufficient quantities to purge freely three or four times a day. From the beginning of this course, the improvement of the patient was rapid beyond my most sanguine expectations. The sinuses rapidly healed, and in two weeks, my patient was discharged; the sinuses were, at that time, so nearly well as to need no further attention, and the constitutional health was better than I had ever known the young man to possess before. This case is selected from a great number of a similar character, but the only reason for selecting this, is because it is the most recent one I have seen.

I have dwelt upon the subjects embraced in these remarks, because of their vast importance. They address themselves to the surgeon in his daily walks, and are intimately connected with true surgical art, and the interests of humanity. A man may be called upon to treat one hundred cases of the kind referred to in this paper, where he will be summoned to one case of lithotomy, or of hernia, requiring an operation. And in no other department of surgical treatment, than that connected with the common occurrences of professional life, is it more necessary to have correct views, and the use of proper remedial means. A surgeon who should apply a poultice to the perineum, for a calculous disease, or an unguent in cases of strangulated hernia, might safely be considered a little behind the times, but to my mind, the use of splints alone for fractures, and unguents and balsams for ulcers and gun-shot wounds, is quite as preposterous and futile.

But the reader must be guarded against the impression that the bandage is the sole means of treatment, in the various injuries and disorders for which it has been com-

mended in this essay, and the preceding papers on the bandage. Constitutional treatment and a prudent regimen are not only useful in almost all cases, but absolutely essential in many. In relation to purulent secretions, Copland says: "Experience having shown the advantages of removing pus by exciting absorption, the means most effectual for attaining that end, must be pursued." The means usually resorted to, are iodine, sulphureous *douches*, frictions with mercurial, camphorated, and terebinthinated liniments, and blisters, and they are, to a great extent, useless. Among the effectual measures, for exciting the absorption of pus at the least expense to the constitution, when it can be applied, the roller is first. It controls the action of the veins, in the sthenic varieties of inflammation, and sustains them above the point of debility in the asthenic form. The next measure of importance is the use of drastic purgatives, and in an inferior degree, dieuretics and diaphoretics are useful for promoting the action of the absorbents. If these measures of control are neglected, absorption may go on at a ruinous rate. And it must be borne in mind, that the means commended here, must be persevered in, as long as heat, pain, redness, and swelling are connected with purulent accumulations.

In former essays the utility of the roller has been vindicated by its own results; in this one, its uses and benefits have been sustained by the disasters that attended its neglect. I pray the reader to ponder well upon these principles and facts recorded in the essays on the bandage, in this Journal. They are vitally concerned in all the walks of surgery; but, above all other considerations, they are most intimately connected with the highest interests of this life. They are associated with questions of deformity and symmetry, with the integrity of the body, with a crippled gait for life, and with life and death. Reader, look well into this matter, for the honor

of your profession is often staked upon issues involved in the principles and facts presented to you in these quotations; the limbs or lives of your patients may hang trembling in the scale of your judgment, and upon your acquaintance with these things, and a decision founded upon accurate knowledge, may depend the weal or woe of numbers of your fellow beings. Scrutinise the facts detailed in the quotations from Dr. Watson, and the British and Foreign Medical Review, and ask yourself what evil influence is pourtrayed there, that skillful and scientific knowledge of the roller will not amend? What vital property is there in these reparative processes that will not derive material support from the bandage? Can it be a matter of surprise to any one, who looks well into these things, that in regions of surgery, where the use of the bandage is neglected, we constantly hear of extensive purulent secretions in cases that know nothing of such disasters, where the bandage is judiciously applied? Can we wonder that limbs are sacrificed on the most frivolous pretences, and lives endangered or lost, that should know nothing of peril, if surgical art were in accordance with the truths of pathological anatomy? To guard the readers of this *Journal* against the whole machinery of error in all cases of which the roller is cognizant, has been the aim of the various essays and reviews on the roller, that have appeared in these pages. And the writer of these remarks, has received ample evidence, that these labors have not been in vain.

MISCELLANEOUS MATTERS OF PRACTICAL MEDICINE.

The number of the London Loncet from which the foregoing surgical cases were drawn, also contains a number of papers of practical value, an abstract of which cannot fail to be useful to the readers of this Journal.

Nitrate of silver, for laceraeed wounds of the face, &c.—

John Higginbottom, F. R. C. S., reports the great success of the prompt application of the nitrate of silver, to lacerated wounds of the face. The advantages ascribed to it are, first—the prevention of the irritation arising from the irregular edges of lacerated wounds, and the induction of adhesive inflammation, as readily in such wounds, as in those that are incised—second, the inflammation, swelling and irritative fever, consequent on lacerated wounds, are in a great measure prevented, and as there is neither ulceration, nor loss of substance, unsightly scars and raised cicatrices are avoided.

Mr. Higginbottom reports two interesting cases of wounds of the face, and one of lacerated perinæum, in which the nitrate was used with advantage. In the case of the lacerated perinæum, the edges were drawn together by the interrupted suture in two places, and the nitrate of silver applied along the skin on each side, close to the line of the wound, and on the line of the wound. On the third day the sutures were removed, and the ligature marks touched with the nitrate to prevent ulceration. "The wound united by the first intention; there was no swelling; and it is worthy of observation, that the eschar surrounding the laceration made by the nitrate of silver had the power of fixing the parts as if adhesive plaster had been applied." The catheter was not used to draw off the urine, but it should not be neglected in such cases.

The plan of treatment thus urged by Mr. Higginbottom, may be useful in wounds of the localities named, but in parts accessible to the roller treatment, the latter should have the preference.

On beds for the sick.—This is a subject that well deserves the attention of medical men. My attention was forcibly directed to the matter some years ago, by the perusal of the case of Dr. Nichols, of Danvers, Mass. He had been afflicted several years with a severe neuralgic

affection, for the relief of which all medication, and all other means were ineffectual. He had been forced to cease all efforts at locomotion, and had resigned himself to a life of hopeless misery. In the midst of his despair, he read, or heard of Dr. Arnott's Hydrostatic bed, and had one made for himself. The use of this promptly brought relief, and restored him so perfectly to health, that Dr. N. walked several miles, to a meeting of the Massachusetts medical society to deliver the lecture on his case, which I read with pleasure and profit. The hydrostatic bed is invaluable in many cases. Some years ago, I was called to a gentleman from Mississippi, who had an acuteness of neuralgic suffering far beyond anything I have ever heard of in any other case. For three years he had never dared to let a ray of light fall upon his eyes, except for the momentary examination of his physicians, and it was with difficulty that Dr. Flint and myself obtained even a momentary glance at the eyes. The patient sedulously shut out light; his windows were not only darkened by the shutters, but dark curtains were hung across every avenue by which light might reach the room. The fire was perfectly screened. In addition to these measures, the patient wore dark goggles, with several folds of black silk interposed between the eyes and the glasses. From these extraordinary measures, the reader may infer the extreme extent of photophobia in this case. It was infinitely beyond any thing I had ever known then, or any thiug I have seen since. Another untoward symptom in this case was the inability in the patient to sleep. For three years he had never slept more than half an hour, in the twenty-four hours. In other respects the constitution, and the natural functions, seemed to be in good condition.

In consultation with Dr. Flint, it was determined to use Arnott's Hydrostatic bed, and to rely upon it mainly for the management of this singular case. To our great

gratification, the patient slept soundly through seven consecutive hours the first night he was placed on the water-bed, and he commenced improving rapidly. He felt such great confidence in the powers of this new bed, that he soon followed the example of the recipients of miraculous favor, recorded in the histories of the Evangelists—he took up his bed and went home. It was a cumbrous affair, and the residence of the patient was a considerable distance from navigation. But Mr. D. had felt so much relief from the sleep secured by this water-bed, that he underwent all the difficulties, in transporting it over land, in order to be certain of a resource against suffering.

I have seen so much benefit from the water-bed, in other cases, besides the one detailed above, that I could not do less than commend it to the attention of practitioners. The lady of a distinguished clergyman in this city, after months of extreme affliction, had her bed of suffering made easy, and her dying agonies soothed by the water-bed—the Rev. Benj. O. Peers, in his dying hours, found a comfort in Dr. Arnott's Hydrostatic bed,* that had been sought in vain, from other sources.

In some recent numbers of the London Lancet, there are several suggestions connected with beds for the afflicted, that are worthy of notice. J. Henry Rogers, Esq., surgeon, thus speaks of what is called Cottam's spring-bed:

"In the autumn of 1846, during the time I was acting as house-surgeon of the Middlesex Hospital, some beds were sent there for trial by the inventor, which had been constructed by him with the view of securing all the advantages of the Arnot bed, without being liable to similar objections. These beds consisted of a light iron frame,

*A description of this bed may be found in the 2d volume of Arnott's "Elements of Physics."

with transverse elastic steel bars, to which were attached a number of iron springs placed vertically, supporting a thin detached horse-hair mattrass. As these springs act independently of each other, and yield in proportion to the pressure from above, the mattrass adapts itself perfectly to the surface of the body, the pressure being as equally diffused as in the water-bed: As the body of the patient is separated from the air merely by a thin mattrass, evaporation goes on as freely below as above, so that no accumulation of moisture can possibly take place —an advantage which was speedily discovered by the first patient who was placed on one of these beds, and who had been for some time confined to an Arnott bed. These beds being found fully to answer the expectations formed of them, have since been generally employed in the hospital in all cases where the Arnott bed was formerly had recourse to. There are now sixteen in constant use in that establishment; they are portable, cheap, and not liable to get out of order. I saw one during a recent visit to London, which had been in constant use since the autumn of 1846, and was in as serviceable a condition as when first sent in."

But the most useful article of this kind, is a water-cushion, invented by a Mr. Hooper. It is of an oblong form, and about 20 inches by sixteen in size. It is made of vulcanized India rubber, and is as soft as velvet. The space between the under and upper surface of the cushion should be about one inch, or one inch and a half. The cushion should be provided with a tube, with a stop-cock and funnel, by which the cushion may be filled or emptied, or the temperature of the water may be changed, without incommoding the patient.

There are many cases in which these water cushions are invaluable. Mr. Sampson says, "the water cushion is valuable in fever as a refreshing pillow for the head, in acute rheumatism as a cool support for the inflamed limb,

as also in certain uterine affections, inflamed piles, &c., and when filled with hot water, it furnishes a most convenient means of imparting warmth to the spine."

Mr. Ceasar Hawkins, of St. George's Hospital, urges the use of the water cushion, "where the sacrum and hips are threatenened with sloughing, or in which sloughing has taken place; it is employed where the scapulæ, or spine, or heels are in danger, and where the os coccygis and ischia require defence. In injuries, such as fractures, or diseased joints, the arm or the leg may be laid lengthwise, with advantage on the water-pillow, to protect the elbow or heel from the effects of pressure.

The reader cannot fail to estimate properly the important character of the water-cushion. It possesses means of comfort for patients, that may be sought in vain without it.

Intestinal obstruction, arising from disease of the sigmoid flexure of the colon and the rectum, in which the descending colon was successfuliy opened in the loin.—Two interesting cases of this kind, are detailed, in the April number of the London Lancet, by T. Field, and J. Clarkson, Esqs., Members of the Royal College of Surgeons. The first case occurred in the person of a corpulent, muscular forger of coach axles. He was thirty-three years of age. He had always enjoyed good health, until within a year past, about the beginning of which time he began to suffer from pain in the bowels, constipation, and tenesmus, his stools becoming scanty, and voided with difficulty." For months these symptoms continued, becoming more aggravated in form. The patient often vomited after eating. Four days before Mr. Field's visit, the bowels had ceased to act, and all the symptoms became greatly aggravated. The abdomen was distended and tympanitic; there were pain, tenderness and some bulging over the transverse colon; the pain was paroxysmal, and accompanied by strong tenesmus; vomiting

was almost incessant. Various and appropriate means were resorted to for opening the bowels, and these measures were continued, unsuccessfully, for twelve days. The case then assumed alarming symptoms, and Mr. Field determined upon an operation. "The patient was extended on a bed, with his face downwards, and a transverse incision was made in the left loin, commencing about two inches from the spine, and carried directly outwards for five inches and a half, about one finger's breadth above the crest of the ilium. The skin, fat, latissimus dorsi muscle and quadratus lumborum were successfully divided, and a shining membrane exposed." The bowel was found, at considerable depth; sutures were passed through it, to retain it in its position, and subsequently to affix it to the edges of the wound, and incision was then made into it, to the extent of half an inch, which immediately gave exit to an immense quantity of light-colored fluid feces. The patient was at once relieved from all distressing symptoms. The opening in the bowel was fixed with sutures to the skin, a large bread poultice was placed over the wound, and the patient enjoined to lie on his left side. Through the following night the evacuations continued abundant; the belly became soft and free from tenderness, and the general symptoms were still farther relieved. On the third day after the operation, the wound was rather inactive; it was syringed with yeast mixed with warm water, and dressed with lint and oil. Granulations sprung up, and the patient recovered, and resumed his trade, which required great physical exertion. He was occasionally constipated, caused, apparently, by a contraction of the artificial anus, which was relieved by injections of warm water.

This patient lived 21 months after this operation. The *post mortem* revealed a stricture, about 4 inches long, in the sigmoid flexure of the colon, this portion being filled with coagulable lymph.

The other case occurred in a robust, healthy looking woman, aged twenty-one. It is unnecessary to enter into the details of this case, as those, reported for Mr. Field, are very copious, and clearly mark the justifying symptoms for the operation, and the character of the operation. Mr. F.'s patient recovered her health for a time, and survived the operation fourteen months. In this case: "the obstruction was about six inches from the anus, and on a level with the fundus of the uterus. It consisted of dense, cartilaginous substance, surrounding the intestine, and completely obliterated the canal to the extent of half an inch." There was a great deal of diseased appearances in various parts of the abdominal viscera.

In the debates of the Royal Medical and Chirurgical Society, drawn forth by these cases, various members urged the importance of an early operation in such cases. Drastic purgatives, for obstructed bowels, are prejudicial, and much judgement is required, in order to determine how long purgative measures shall be persevered in, and when the necessity for the operation is absolute. There must enter into the material for making a judgment, the fact, that malignant disease is often connected with these obstructions. The whole subject is one of great interest to the physician, for lives are often lost in these cases, that should be saved.

Mr. Hodgson said, during the debate, that vomiting does not occur as early in the disease, when the obstruction is in the large intestines, as when the small intestines were the seat of it. The entire matter involved in these cases is worthy of the study of the physician, and it is respectfully commended to the readers of this Journal.

REVIEWS.

ART. V.—*On the Treatment of Fractures, &c., by the use of the Roller.* By B. W. DUDLEY, M. D., Professor of Surgery in Transylvania University. Transylvania Medical Journal, 1850. Vol. 1, No. v.

The paper before us embraces a subject which has occupied a considerable portion of this Journal within a few months past; we shall not therefore, enter upon an elaborate analysis of the paper, nor weary our readers with the many reflections that naturally arise from the perusal of an essay, combining some merit, with numerous faults; thrown together with seeming disregard to system or order, and marred on every page by errors, that reflect most seriously either on the author or proof reader, perhaps on both. The practical import of the essay may be expressed in a single word—the roller; whether the fracture be of an arm or leg—of the neck of the femur or scapula, each one requires and receives but a single remedy.

Of all the accidents to which the bones are liable, fractures are, by far, the most frequent; none demand more prompt and careful attention, nor illustrate more clearly the importance and utility of the surgeon's art. To the surgeon nothing can be of more moment than a clear understanding of the nature of these accidents, without which he must often inevitably fail in discharging with skill, the duty that fractures require of him. A mistake may be fatal to his reputation; for a distorted limb will be considered as a living monument of his want of skill,

and is but too often an enduring, and should ever be, a mortifying reproach to the surgeon.

It is but reasonable to suppose that these accidents were among the very first that awakened the solicitude, and gave exercise to the ingenuity of the great progenitors of our race. Certain it is, that in the most ancient records of medical science, we find very minute and complicated directions for the management of these serious casualties; mechanical genius has in all ages been called into requisition, and the inventive power of man has, in no department of surgery, shown itself so fruitful as in this. Screws, clamps, splints of every imaginable shape and material, bandages innumerable, and every contrivance, that was supposed to be capable of repairing the injury, or of adding to the quiet and comfort of the sufferer, meet us in surgical records.

But the bed of Hyppocrates, and the Glosocomon, as used by the ancients, and pictured in engravings in the works of the great master Paré, have been abandoned on account of their complexity. Avicenna's method has shared the same fate, although it was approved, and in some degree modified, by Petit, Heister, and Duverney. The machines of Bellocq, Hook, and countless others have deservedly fallen into disuse. Desault's plan, more simple and practicable, was yet beset by so many difficulties that it could not be sustained, even when supported by the improvements of the distinguished Boyer and others. These innumerable appliances, that have rapidly succeeded each other in every age, have probably owed their existence to the infinite variety of the accidents, which they were intended to remedy. There are striking differences in fractures as they occur in different bones, or in different parts of the same bone; in regard to the direction of the fracture; the relative position of the fragments; and in the attending circumstances, which may present the fracture to us as simple or compound.

But varied as these conditions may be, the indications are quite simple. If displacements accompany the accident, the indications are: 1st. To readjust the separated fragments. 2d. To maintain them in proper position until they are united by ossific matter, and, 3d. To anticipate such accidents as are likely to happen, or to meet them with suitable remedies when they have already supervened.

The more simple the means by which these purposes are effected, the better, and the tests to which we would submit any mechanical contrivance, for securing fractured limbs, are their simplicity—promise of comfort, and success. Thus tested, we believe the bandage, as commended at various times by some of the ablest men of the profession, is infinitely superior to all the expensive, cumbrous, yet ingenious machinery, that in former times, stood in fearful array in almost every surgeon's office; and we cannot but be surprised, that while so many able and intelligent writers seem to have appreciated the importance of this simple but powerful agent, few availed themselves of all the benefits that flow from its judicious application.

But the numerous mechanical contrivances, to which we have alluded, should not be discarded without consideration; students should ever bear in mind the judicious advice of Charles Bell "not to pin their faith upon any individual master, school, or hospital, as is too often the case; but look around them, and particularly learn what our predecessors have said and done." Half a century since, one of England's most distinguished surgeons and physiologists, unblushingly declared, that "reading was folly," and but too many of his ardent admirer's discovered, when too late, that the greater part of their lives had been thrown away, in the futile effort, to wring from nature, truths long since brought to light by those very men whose labors they were taught to scorn and deride.

The spirit of the present age is happily with Mr. Bell, and some study of the literature of the profession has become an imperious necessity; while nature is appealed to as a test of truth, and consulted with a view to further accessions to the common stock. Hence we are no longer in danger of losing what is old and good, no matter how much we gain in our search after novelty. "Those who are not aware of the observations and discoveries of the great men who have preceded them, are in continual danger, in straining after new inventions, of only restoring what has been discovered, tried, and rejected before their time." Hence the importance of looking into, even, the errors of the past, that we may wisely steer clear of the shoals that may have proved disastrous to others. In no department of medicine is this of so much moment, as in that which regards the treatment of fractures. How often has the same instrument been ignorantly reproduced, and at the cost of how much of human suffering? Truth and error should be alike closely analysed, for, thoroughly comprehended, both serve to direct our steps in the pathway of duty. Having examined a great number of instruments for dressing fractures, and witnessed the application of not a few, we take pleasure in awarding to our author the honor of contributing efficient aid to the revival and extension of the use of the bandage as a substitute for them all; for we repeat, that in our opinion, with the addition of simple splints, the roller is, beyond all question, the most simple and perfect means in the hands of the profession. It is alike convenient to the surgeon and comfortable to the patient. We are free to confess, however, that we have not found it practicable to dispense with splints; nor do we know any one, except our author, who would feel authorised to rely wholly on the bandage. Professor D. declares that he has not used a splint, save in fractures of the forearm, "for thirty years past in practice," and then only for the purpose of pre-

serving the space between the radius and ulna, so absolutely necessary to the motions peculiar to that part of the body. We presume there is some mistake here, since the Professor says, on page 446 that: "in consequence of the obliquity of the fracture, splints eight inches long were directed to be tied on" in a case that occurred "within the past year." This is certainly an admission that splints do sometimes become necessary, and in this opinion there is a unanimous concurrence amongst all surgeons with whose writings or opinions we are acquainted. Although "the bandage," to use the language of Boyer, "instead of occasioning an edematous swelling of the limb, obviates it by making equable pressure on all its parts, which acts in direct opposition to the muscles, that tend to separate the portions of bone, and which, by acting on these muscles, diminishes their irritability and enfeebles their action, must concur powerfully with a good position to effect union of the divided portions;" yet in the varied motions of the patient, the mere weight of the limb, unsupported by something less yielding than the roller, would be liable to produce curvature, that must ever after remain an irremediable injury to the patient, and an enduring reproach to the surgeon." In view of the very clear notions of the effects and advantages of the roller, in certain fractures, entertained by Boyer, and before his time proclaimed by others, we are not a little surprised, that he failed to apply, the same sound and wholesome principles, to the management of the same accidents in every part of the body, unincumbered by the complicated, inconvenient and painful machinery to which he too often resorted. Take, for example, his treatment of fractured tibia; and we will venture to assert that neither any of his predecessors or successors, have ever devised a plan, more simple in character, or better calculated to promote the comfort of the patient, and to secure the restoration of the limb to

symetry and soundness. "A long compress placed on the anterior part of the leg, and over that a roller or circular bandage, with which the leg being covered, three splints of pasteboard, or thin wood, are applied and bound on by the part of the roller which remained unapplied." The value of this mode of dressing fractures, and its vast superiority over all others, was most ably presented and illustrated by cases, in two essays, by one of the editors of this Journal in the February and April numbers of the present year, to which, we take great pleasure in refering our readers, as the best articles, on the subject of the bandage, that we have had the good fortune to peruse. If our readers will do us the favor to turn again to these essays, they will perceive, that it would be a work of supererogation on our part to extend our remarks on the essay before us; we shall therefore content ourself with a brief analysis of our author's views, accompanied by a very few remarks of our own.

The first paragraphs shadow forth the practical teachings of the whole essay, and as our readers must have already anticipated, these are simple, easily understood, and in strong contrast with the complicated and tormenting machinery too common in former times, to which we have alluded, and which has happily long since gone down to oblivion, or is now only occasionally recalled as warning to ourselves, and as fruitful evidence of the ingenuity of able men, whose whole lives were devoted to ardent and unwearied efforts to alleviate human suffering.

"The benefits arising out of the skillful application of the roller to the treatment of fractures, have at no period of surgical history united the confidence and commendation of enlightened surgeons in a measure commensurate with its merits." So many mischievous errors have been propagated in regard to this fatal agent, "that surgeons have been more watchful to guard against apprehended injuries consequent to its application, than prompt in em-

bracing the advantages of a remedy, which must be classed amongst the most powerful, the least equivocal, and the most rational in the profession."

The objections of our author to fracture machinery, generally, are well laid, and their force will be fully appreciated by all who have attempted to avail themselves of their promised benefits.

The "position of the fractured limb" is a matter of considerable import; and while most surgeons prefer the semiflexed position, experience has demonstrated its inconvenience and impolicy in many cases—as, for example, in fractured patella. Having determined to resort to the roller:

"The time and manner of its application are subjects especially worthy of consideration, and of the exercise of skill. All the muscles, which are to be placed under its control, should be thoroughly extended, provided they are in a state of preternatural contraction, preparatory to the application of the roller; while the force exercised in applying it, must be in proportion to the amount of cellular tissue in the limb, or of the interstitial deposite, which may have been the product of effusion, or of inflammatory action in the part."

An avoidance of "pain and suffering," whether the patient "is resting quietly upon a couch, or subjected to the flying ambulance upon field of battle;" the ease and facility of removing the dressings; the support given to the soft parts, often shocked "beyond their capabilities for healthy reaction;" the control exerted over "destructive inflammatory excitement;" the power to retard mortification and sloughing when present, are offered as so many reasons in support of the Professor's favorite remedy.

Sir Astley Cooper's circular bands, and Mr. Lonsdale's iron clamps in fractured patella, the Professor thinks "render deformity, and imperfect use of the part almost certain;" and beside, he says, eight or ten days must

elapse before the swelling and inflammation are sufficiently reduced, according to these gentlemen, to justify a resort to the means they recommend. Before this can be accomplished such changes may have occurred as utterly to preclude all hope of a perfect reunion.

John Bell was the first to publish the opinion that bony reunion does not take place within a capsular ligament; the same doctrine was taught and published by Sir A. Cooper; but he is not so exclusive, in this matter, as is indicated by our author; nor does he inculcate the necessity of delay, in the application of the bandage, in all cases.

The principle taught by Sir Astley was that "ligamentous union extends to all detached portions of bone within a capsular ligament; its vitality being supported merely by the ligament within the joint," but he distinctly admits the possibility of bony reunion of fractured patella. His attention was attracted to this subject by a discovery made in dissecting a body at St. Thomas's hospital; both patella had been fractured longitudinally, and although the fragments of each were almost in contact, ossific union had taken place in neither. This surprised Sir Astley, and he immediately entered upon a series of experiments, on animals, for the purpose of elucidating this phenomenon. These experiments resulted in proving that the failure of ossific reunion, after fracture of this bone, was owing to more or less separation of the fragments, and that, when they were kept in actual contact, ossific agglutination took place. In compound fracture of this bone, this distinguished surgeon inculcated the wholesome principle that the prime "object is to produce adhesion immediately, and every means in our power must be used to effect it." He applied the bandage without delay, and thus succeeded, with the aid of a few stiches and adhesive strips, in effecting cures in several cases. In recent simple fracture, where no swelling, etc.,

had supervened, there is no material difference between the treatment proposed by Sir Astley, and that pursued by our author; where there was much swelling, the former gentleman did not appreciate the bandage so highly as it deserves, but thought proper to resort to depletion, and evaporating lotions for a few days before a resort was had to the roller. In our opinion, our author is correct in considering the bandage highly useful at every period of the treatment, and when there is much swelling, pain, etc., it is more imperiously demanded than under any other circumstances.

The following is our author's treatment of fractured patella:

"The limb was sponged with warm water, and two rollers were made wet with spirit. A narrow roller was evenly applied, without force, from the toes to the knees, and then made fast. When the superior fragment of the bone had been brought into place by an assistant, with the aid of pressure applied upon the front and upper part of the thigh, a broad roller, after being fixed around the hips, was brought down upon the thigh. With every successive turn of this, the soft parts were pressed gently before it, and finally presented a superfluity about the knee, when this roller was made fast. It now remained to adjust the fragments in apposition, and to give them proper protection. With this view the roller upon the leg was continued over the knee. By oblique turns of this, made to embrace the superior and inferior fragments alternately, they were approximated, and when fairly adjusted, the obliquity of the roller was regularly diminished, until by transverse turns, equable and efficient compression was applied to all points of the surface."

The dressings remained undisturbed until the tenth day, when interstitial absorption had progressed so far as to render their removal and reapplication necessary. "At the end of the third week, ossification between the frag-

ments being complete, the dressings were removed the second and last time." Two weeks afterwards the same bone was refractured, and was subjected to a similar treatment;" at the end of the sixth week ossific union was complete, attended by a profusion of ossific deposits; which disappeared some months after, under the use of the limb."

An exuberent ossific secretion is not an unfrequent attendant on fracture, and "such an accident may be converted into an occasion of confering increased length upon the broken bone."

This is illustrated by reference to cases of "*the bone fellon*," in which, after the terminal phalanx was "wrenched from its connexions with the capsule, ligaments, and cartilage of the joint," a new and perfect bone, of increased length, was regenerated, under the influence of the bandage.

The roller is believed to present "the greatest security against artificial joint," and, together with friction, the most efficacious remedy for that important accident.

For the rupture of the tendo-Achillis, or of the tendon uniting the patella to the tibia, the same treatment is regarded as altogether sufficient.

Much discussion has arisen in regard to the possibility of perfect reunion after fractures of the cervix femoris; many of the ablest men of the profession have thought recovery without shortening of the limb and lameness impossible; amongst these are Hildanus, Plantner, Ludwig, Louis, Sabatier, Cooper, Bell, etc. Our author correctly sides with Desault, Boyer, and others, who stoutly maintain that a cure without lameness or deformity may be obtained, and also, a perfect consolidation. Dupuytren says that bony reunion in extra-capsular fracture, may and does often take place; as conclusive proof of the truth of this position he confidently appeals to many spe-

cimens preserved in the museum of the Faculty of Medicine, and at the Hospital de la Pitié.

Two of the most common causes of non-consolidation, when the fracture is skillfully dressed, are old age and a complete rupture of the orbicular ligament. Old age is always a serious impediment to the restorative process of nature; and if the orbicular ligament be ruptured, the head of the bone is effectually cut off from all supplies, and of course must die. The operation of these causes, too often overlooked, has probably been principally instrumental in establishing the mischievous error which regards deformity and lameness as the necessary consequences of this accident. Although old age is generally a serious obstacle, yet it should be borne in mind, that it is not always an insuperable bar to perfect recovery; we might cite many cases to establish the requirement of duty—that an effort should always be made to effect consolidation, however advanced in life the patient may be. Boyer happily succeeded with a patient, who was an octogenarian, and our author had a like success, twice with the same patient, who had reached the age of seventy. The following is the treatment pursued by our author.

"A roller of appropriate width, made wet with spirit, was applied smoothly and evenly to the foot and leg, and made fast upon the knee. Another wider roller, prepared in a similar manner, was made fast around the hips, in anticipation of extension and counter-extension."

"When the muscles had fairly yielded to the powers of extension, as was indicated by the restoration of the length of the limb and facility of abduction and adduction of the toes, the bandage upon the hips was brought down over the superior and back portion of the glutei, around the superior part of the thigh, and again over the hips. In each successive turn around the hips, nates and

thigh, care was taken to embrace every portion of the glutei, and deeper seated abductors, together with the opposing muscles on the inner and front portion of the limb. When the pressure here was made equable and uniform in all its bearings, the roller was continued down, and united to that already placed upon the foot, leg, and knee. Although pressure could not be directed immediately upon the psoas, and obturator, the iliacus and pyriformis muscles, involved in this injury; yet the object was accomplished, as in other cases, and by other surgeons where extension and counter-extension is exclusively relied upon; by acting upon the points of their insertion with the roller. The patient was then placed upon his couch, and the rollers were permitted to remain undisturbed for a week, when it became necessary, from the reduced size of the limb, and the loose state of the bandages, to remove and reapply them as before. During a confinement of six weeks, the rollers were removed and reapplied five times, after which he regained the use of his limb, under the effects of gentle exercise upon a crutch."

It is worthy of remark that this cure was effected in less than one half the time usually thought to be necessary to consolidate a fracture of the cervix femoris.

Our author admits the concurrence of all surgeons in the use of the bandage in fractures of the ribs and clavicle; but remarks "that these two species of fracture do not, either of them, exemplify the princinciple upon which its actions depend." The treatment of fractured clavicle is exceedingly simple:

"A sling made of a Bandanna handkerchief; or what may answer a better purpose, a piece of muslin, from three to four feet long and from twelve to fifteen inches wide, with a slit at either end, is proposed with a view to supersede all other dressings."

The following passage imparts a caution which should not be overlooked:

"But the potency of the roller is liable to be abused. Its mischievous effects when applied to inflammatory swellings proceeding from constitutional causes, whether these swellings and inflammations have been invited to the particular location by violence or otherwise, *is* familiarly known; and in such an event the inflammatory action is liable to assume a form not less destructive, and perhaps more painful than the original; even provided a mischievous transfer to parts of more vital importance does not ensue."

Great care is to be exercised, especially in fractures, "attended by extensive laceration of the soft parts, to select a material for the roller, which admits of the most easy access through its texture to the cutaneous surface * * * * the *open coarse cotton*, with a strong thread; surpasses as the material for the roller, all dressings, hitherto suggested in these cases."

The application of a glutinous substance upon the surface of the roller, as has been suggested by some of the French surgeons, is reprobated in strong terms as being well calculated "to divest the remedy of all its virtues."

The following course was successfully resorted to in a case of fistulous abscesses, and an artificial joint about the middle of the humerus:

"The parts were handled with great freedom in order to expel all purulent secretions from the abscesses, and at the same time to cause free and forcible friction between the broken ends of the humerus. So soon as these objects were accomplished, a roller was put on from the fingers to the elbow, and then in a flexed position of this joint, the roller was continued over the elbow and as high as the shoulder. The forearm being placed in a sling, the patient was directed to return the next day."

This dressing was renewed daily for a week, until "the fragments of the bone had become so sensitive as to forbid further disturbance." At the end of the fourth week ossific union was complete.

The following is an interesting, and certainly an extraordinary case:

"Mr. B. was brought on a mattrass to this place, and examined twenty-four hours after having his hand, fore-arm, and arm lacerated and crushed, between a heavy pair of iron cylinders while they were in rapid motion. Several severe lacerations were inflicted on the hand. A lacerated incision extended from a little above, and upon the outside of the wrist, nearly up to the elbow, involving and injuring extensively the interosseous ligament. The radius and ulna were thoroughly ground into small fragments, and these were intermingled.

"By means of the fingers and thumbs of both my hands, all of which were admitted together down to the interosseous ligament; the fragments of *the* one bone of the fore-arm were separated from those of the other; which could not have been accomplished, except through the facilities afforded by the external wound.

"A profound and irreparable injury, consisting in the death of the whole of the integument of the front surface of the fore-arm, was then exposed to view; and as the sequel proved, this was attended by a like condition of the superficial common flexor of the fingers. The humerus was extensively crushed, yet not so much ground up as were the bones of the fore-arm; nor was it a compound fracture. The axilla, the breast, the side, and the shoulder, by checking the impetus of the machinery, suffered great and alarming contusions and exhibited extensive effusion of blood."

"When the injured surfaces had been for half an hour under the influence of hot spirits, as an ablution, the dressings were made ready. These consisted of a roller and two pledgets made wet with spirits, with two narrow splints for the fore-arm, and a roller for the arm."

"Free and frequent ablutions to the whole limb with spirits, were ordered, for the purpose of washing off

bloody effusions from the surface of the dressings; which were not removed until the twelfth day."

At the end of four months "the wound was cicatrised and the dressings discontinued;" the use of the arm and hand was almost perfectly restored.

Fractures of the fore-arm should always be dressed with the hand in supination, and to secure this position, care should be taken to apply the roller from the ulnar side over the front of the arm. Suitable compresses, to preserve the proper space between the two bones, should never be neglected.

The essay under review, contains several very interesting and instructive cases, which we should be pleased to present to our readers, but they are scarcely susceptible of condensation, and our space will not permit us to give them in full. They all, however, teach one doctrine, that no case can be so desperate—no laceration so extensive and terrible, as to preclude the hope of *preserving* the limb under the influence of the bandage.

We do not feel an implicit faith in the roller alone in all cases, but we are convinced that in most fractures, with the aid of a few simple splints of stiff pasteboard or thin wood, it is infinitely superior to all the fracture machinery ever invented, being alike simple in its application, always accessible, safe and comfortable to the patient, and serving as an effectual bar to many of the most distressing and troublesome accidents that so frequently complicate these injuries.

Our author is not original in the application of the roller in the treatment of fractures, but he stands almost or quite alone in discarding all other means. While a vast majority of surgeons have resorted to more or less machinery in dressing fractures, many of the ablest writers, from Galen to the present day, have borne testimony to the potency of the bandage, and simplicity in the management of these accidents has now become almost uni-

versal. We have not deemed a reference to these authorities necessary, on the present occasion, inasmuch as they have already spoken in the two essays of Dr. Bell, to which we have invited the attention of our readers. We may be indulged, however, in quoting a paragraph from Dr. Bell, while we refer to his essays for the numerous citations by which he has abundantly fortified his position:

"From the days of Hippocrates and Galen, down to the present, through all the varying schools that have lived and perished, through all the wild, fanciful and chimerical systems and theories that have been in vogue, as well as among the most truthful and observant of sects, the bandage has steadily maintained its position, as, at once, not only the most useful and valuable of all agents for its purposes, but the one of all others, capable of the most general and extensive use. The highest authorities in all ages of medicine, have constantly endeavored to bear testimony to its great qualities, and many of the old surgeons had as clear and extended views of its multiform capacity for a great variety of surgical purposes, as any of the most enlightened among the moderns. Why should there, then, be any hesitation about the use of a remedy thus commended? If the accumulated experience of many centuries is of any service, why seek to deviate from that plain faith that is studded with monuments of success, and that has all the leading lights of the medical profession playing upon it?" C.

ART. VI.—*The Diseases of Females, including those of Pregnancy and Childbed.* By FLEETWOOD CHURCHILL, M. D., author of "The Theory and Practice of Midwifery," and "Diseases of Infants," &c. A new American edition, revised by the author. With the notes of Robert M. Huston, M. D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, &c. Philadelphia: Lea & Blanchard. 1850.

This is the fifth American edition of Dr. Churchill's work on the "Diseases of Females," a fact that speaks expressively of the value of the book. In the present edition, Dr. Churchill says: "The valuable notes of my friend Dr. Huston have been carefully retained, and I have added considerably both to the text and notes, so that I trust it will be found an improvement upon its predecessors."

Dr. Churchill's distinguishing traits as an author are cautious, but copious description of disease, clearness in pointing to the means of diagnosis, and fullness in his therapeutical means. These traits have enabled Dr. Churchill to command the approbation of the medical profession in Great Britain and America. We know of no author who deserves that approbation, on "the diseases of females," to the same extent that Dr. Churchill does. His, indeed, is the only thorough treatise, we know of, on the subject, and it may be commended to practitioners and students as a masterpiece in its particular department.

The former editions of this work have been commended strongly in this Journal, and they have won their way to an extended, and a well deserved popularity. This fifth edition, before us, is well calculated to maintain Dr. Churchill's high reputation. It was revised and enlarged by the author, for his American publishers, and it seems to us, that there is scarcely any species of desirable in-

formation on its subjects, that may not be found in this work.

The American editor, too, has discharged his duty towards this fifth edition. We commend the work as one that should be found in the hands of every practitioner of medicine, and of every student, who has a real desire to adorn a noble profession, by practical talents.

The admirers of Dr. Churchill are indebted to Lea & Blanchard for the very creditable manner in which they have published this book.

Churchill on "The Diseases of Females," may be found at the bookstore of Beckwith & Morton.

Art. VII.—*Surgical Anatomy. Part* 2. By Joseph Maclise, Surgeon. With colored plates. Philadelphia: Lea & Blanchard. 1850.

We have already announced the character and terms of this publication, and we renew a reference to the terms. The work will be published in four parts, containing twelve to sixteen colored plates each, the whole forming one large imperial quarto volume, with about one hundred and fifty double-columned pages.

This is by far the ablest work on Surgical Anatomy that has come under our observation. The London Lancet says, of it: "The practical knowledge of the surgeon, the patience and skill of the dissector, in combination with the genius of the artist, as here displayed, have never before been, and perhaps never will be again associated to a similar extent in the same individual." We cordially join in the whole of this commendation. We knew of no other work that would justify a student, in any degree, for neglect of actual dissection. A careful study of these plates, and of the commentaries on them,

would almost make an anatomist of a diligent student. And to one who has studied anatomy, by dissection, this work is invaluable, as a perpetual remembrancer, in matters of knowledge that may slip from the memory. The practitioner can scarcely consider himself equipped for the duties of his profession, without such a work as this, and this has no rival, in his library. In those sudden emergencies that so often arise, and which require the instantaneous command of minute anatomical knowledge, a work of this kind keeps the details of the dissecting room, perpetually fresh in the memory. We appeal to our readers, whether any one can justifiably undertake the practice of medicine, who is not prepared to give all needful assistance, in all matters demanding immediate relief.

We repeat that no medical library, however large, can be complete without Maclise's Surgical Anatomy. The American edition is well entitled to the confideuce of the profession, and should command, among them, an extensive sale. The investment of the amount of the cost of this work, will prove to be a very profitable one, and if practitioners would qualify themselves, thoroughly, with such important knowledge as is contained in works of this kind, there would be fewer of them sighing for employment. The medical profession should spring towards such an opportunity as is presented in this republication, to encourage frequent repetitions of American enterprise of this kind.

ART. VIII.—*A Treatise on Baths; including Cold, Sea, Warm, Vapour, Gas, and Mud Baths; also, of the Watery Regimen, Hydropathy, and Pulmonary Inhalation; with a Description of Bathing in Ancient and Modern Times.* By JOHN BELL, M. D., formerly Lecturer on the Institutes of Medicine, and on Materia Medica. Philadelphia: Barrington & Haswell. 1850.

There could scarcely be a more opportune publication than this. Between ignorance of the real and valuable uses of water, as a remedial agent, and the fear of being considered followers of Priessnitz, the profession has been avoiding the use of water, as a remedy, and in that way losing a valuable agent in curing many diseases. We have always regarded Currie's reports as one of the standard works, of practical medicine, that is destined to retain the confidence of all who read it. It is a book that deserves very careful study, and even the student who may read the excellent treatise before us, may turn from its classical, eloquent, and practical pages, to Currie's Reports, and feel his mind refreshed.

This work of Dr. John Bell, on Dietetical and Medical Hydrology, is the only treatise on the subject, in the English language, that may be considered a complete one. In addition to the valuable details of the work, that are the result of the author's own observations and reasonings, he has laid M. Gaudet's interesting Treatise on Sea Bathing, and the work of M. Rapou on Vapour Baths, under contribution. In this way, Dr. Bell says: "American readers are put in possession of a body of instructive matter not hitherto accessible in an English dress."

The former work of Dr. Bell: "On Baths and Mineral Waters," published in 1831, commanded the confidence of the profession throughout the country. The work on our table, however, is entitled to a much more extended approval. The author "has enlarged on all the topics of

his former work, and has added new ones—so far as relates to baths and bathing." So great is the enlargement of the present work; it is so much more copious, thorough, and useful than the work of 1831, that it may almost, be regarded as a new treatise.

We are persuaded that there is too much neglect of the use of cold water, both in practical medicine, and in surgery. In many cases of fever, in various affections of the head and spine, and in a great variety of injuries that require surgery, cold water is invaluable. We have never been able to imagine how a physician can endure and encourage the agonies of a patient, in fever, whose parching thirst cries incessantly for cold water. There is scarcely any article of the Materia Medica more prompt and efficient, in relieving a febrile paroxysm; there is certainly no one more grateful to the patient. But an absurd prejudice, which has no foundation in fact, interdicts the use of cold water, when the patient is taking mercury. We have a great confidence in the powers of calomel, but if the foolish prejudice, of which we speak, had any authority over us, we should promptly give up the calomel, and depend upon the cold water as the greatest remedy of the two. How it ever happened that the notion came into use, that calomel salivates because cold water is used, we do not know. We have seen many more persons salivated, who confined themselves to warm drinks, than those who used the cold water. For twenty years we have urged upon patients the value of cold water drinks, while undergoing the use of calomel or blue mass, and so far from having seen any cause to regret it, we have found abundant sources of gratification. Any one who will use his reason, instead of depending on "old wives' fables," may find satisfactory reasons why the use of cold water drinks, in connection with mercurial treatment, in febrile or inflammatory conditions, will prevent salivation. The whole subject may be thrown

into a syllogism, consisting of well established truths—if calomel purges freely, it is not very likely that it will act on the salivary glands—it cannot purge well, if the febrile or inflammatory symptoms are above the secreting point, and the lancet itself is not a more powerful agent, for reducing the excessive actions of the arterial system, than cold water—the sequence is clear, cold water can and does prevent salivation, but ptyalism may come on, despite of the cold drinks; we know it often does, when they are avoided.

We are much gratified with the remarks of Dr. Bell on the use and various values of cold water drinks, and we hope his sentiments will exert a wide-spread influence over the profession. A work of this kind was much needed on this very point, and it could not have been undertaken by a more competent man. We are wedded to the use of cold drinks, by personal experience. For thirty years and upwards, we have undergone an amount of toil, endurance, and exposure that few have experienced. We have thrived on four hours sleep in the twenty-four; we never knew a leisure hour yet, we have arduously engaged for twenty years in the practice of medicine, in drenching rains, snow storms, sultry heats, repeated losses even of the pittance of sleep claimed as due, and through all, have maintained almost uninterrupted health. And we know no more of the taste of alcoholic drink, than if there never had been such a thing known. Not a drop of anything of the kind has ever been in our mouth. Nor, save at the communion table, do we know the taste of wine. But any deficiences of these privileges have been more than made up in an intense love of cold water, and no toper ever revelled in the love of his intoxicating dram, more than we do in the love of a glass of cold water. To the free use of that drink, we owe unusual health, in the midst of the many physiological sins, we are forced to commit.

We love cold water in the same way that old Peale said he loved brandy—internally, externally, and eternally.

We cordially commend the work of Dr. John Bell on "Dietetical and Medical Hydrology," to the profession. It is a work of rare and unusual merit. It is classical in its style, pleasing and instructive in its varied details, and exceedingly practical in all its departments.

We owe many thanks to the publishers, Barrington & Haswell, for the very excellent manner in which they have published this work. It is one of the most beautiful publications we have seen; excelling in typography and tastefulness, even Putnam's editions of Washington Irving's works. This beautiful volume is as well fitted for display in a lady's *boudoir*, as upon the shelves of a library, and the mind drinks in the pleasant knowledge of the author, with additional delight arising from the tastefulness of the goblet from which it flows.

These works, Maclise's Surgical Anatomy, and Bell on Baths and Watery Regimen, may be found in the excellent collection of medical books, at the bookstore of Beckwith & Morton.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Regeneration of the Sciatic Nerve.—M. Brown Séquard recently exhibited to the Biological Society of Paris a Guinea-pig, in which the sciatic nerve had been completely divided twelve months previously. A month after the operation, indications of a return of sensibility had begun to present themselves; within another month, the sensibility had decidedly augmented, but was still much inferior to that of the sound limb; the muscles had then begun again to act. Six months after the section, the sensibility appeared to have returned completely, and the motor power to have been almost entirely recovered; and at the end of about eleven months, no difference could be discovered in the motor power of the two limbs. The animal having been subsequently killed, a careful examination was made of the part of the nerve where the section had been made; and the restoration of the original state was so complete, that no indication of the division could be discovered, either with the naked eye, or with the microscope. The usual swelling at the point of reunion had been distinguishable up to about the sixth month; but it had then disappeared.—*B. and For. Med. Chir. Rev.*, Jan., 1850, from *Gazette Médicale de Paris*, No. 45.

Pathological Changes that Follow Section of the Sciatic Nerve.—In the same number of the British and Foreign Medical Chirurgical Review, M. Brown Séquard calls in

question the inference that certain patholigical changes, which follow the section of the sciatic nerve, show the dependence of the nutritive operations upon nervous agency. The following facts and reasonings, seem to be conclusive:

"M. Séquard found that section of the nerve in frogs produced no pathological change whatever, save the atrophy consequent upon the paralysis, except when water found its way into the wound. He then divided the nerve in a number of rabbits and guinea-pigs, and placed some of the animals at liberty in a room with a paved floor, whilst he confined others in a box, whose bottom was thickly covered with bran and hay. In a fortnight, the former set exhibited an obvious disordered action in the paralyzed limbs; the claws were entirely lost, the extremities of the feet were swollen, and the exposed tissues were red, engorged, and covered with fleshy granulations. At the end of a month, these alterations were more decided; and a necrosis had supervened in the denuded bones. On the other hand, in the animals confined in the boxes, no such injuries had accrued. It is obvious, therefore, that these changes do not proceed directly from section of the nerve; but that they are consequent upon the friction and compression to which the paralyzed members are subject against a hard soil, in consequence of the inability of the animal to feel or avoid it."

Experiments on the Use of Salt.—M. Plouviez recently presented a memoir to the Academy of Medicine, detailing the results of a series of experiments he has been engaged upon, with the view of determining the part which salt plays in alimentation. To insure accuracy, he had to make choice of persons who led regular lives, continued their habitual mode of alimentation, took the salt at a meal it is not usually taken at, viz.: in the morning, (with milk,) and were weighed before, after, and during the intervals of the experiments. He found more than 25 persons who fulfilled these conditions; but he does not detail the experiments made upon these, as the results only differed in some shades from those observed upon

himself. Some of the persons experimented upon, increased in weight from 500 to 2500 grammes in 30 days, and that only from the daily use of from 6 to 10 grammes of salt. Others increased from 5,000 to 10,000 grammes in three or four months. Some acquired more strength and vigour, without any of the inconveniences of excess of nutrition, while others suffered from all the inconveniences of plethora, until the regimen was changed. The nutritive power of the salt was always most observable in feeble, lymphatic subjects. The experiments would at first seem to support the opinion of those who state that 1 lb. of salt will produce 10 lbs. of flesh; but if the regimen is continued from 5 to 10 months or more, the progressive increase of weight is no longer observed, a stationary condition ensuing, the blood being now as rich and nutrition as complete as possible. This fact explains the opposite conclusions arrived at by different observers. The appetite is sometimes found to increase during the first 8 or 10 days, then to resume its normal condition, and after the first or second month to diminish. The most general and certain effect is the increase of the strength; heat is more readily generated, and the exposure to cold better borne.

M. Plouviez's experiments upon himself were commenced in May, 1842, when he weighed 75 kilogrammes. Beginning with a teaspoonful, he increased it to a tablespoonful (from 4 to 6 grammes,) and continued this daily for 4 months. By the end of June his strength and weight (80 kilogrammes,) had both augmented. By the end of July he found himself heavy and oppressed, and this feeling increasing, he was bled the 30th of August—his weight having by this time increased to 85 kilogrammes. During September he suspended the use of the salt, and finding, on resuming it again in October, that his head again became oppressed, he was bled a second time. He made no further experiments on himself during 1843–'45, during which period his weight continued at 83 kilogrammes.

Resuming the experiment again November 1st, 1846, he took until the 2d of December 4 or 5 grammes daily, and from the 3d of December 10 grammes—his weight increasing to 85 kilogrammes. The former symptoms of determination to the head coming on, he was bled on the

28th, and the blood analyzed by M. Poggiale. He then resumed his ordinary regimen for 66 days, lost 2 kilogrammes in weight, and feeling quite well, was again bled, in order that his blood might be again analyzed. The two analyses gave the following results:

	First Analysis.	Second Analysis.
Water	767.60	779.92
Globules	143.00	130.08
Fibrine	2.25	2.10
Albumen	74.00	77.44
Fatty matters	1.31	1.13
Salts and extractive	11.84	9.33

In the first analysis 6.10 of chloride of soda, and 1.50 oxide of iron were found, and in the second 4.40 chloride of soda and 1.26 oxide of iron.

On the 4th of June, 1847, he resumed the use of the salt, and by the 22d of August had regained his weight of 85 kilogrammes, and was bled in consequence of giddiness. He omitted it, with loss of weight, until the 20th of September, when he resumed it, and reacquired the weight by the 26th of October. He now left off the salt until January, 1848, and then continued it, with intervals of suspension, until February, 1849, the same results being observed. From March to July he suppressed the use of all salt at his meals, and found as the result a loss of weight and a feeling of debility produced.

M. Plouviez in an accompanying note, states that he regards salt: 1. As a condiment until it enters the stomach. 2. As reacting through its bases upon this viscus, and the intestinal canal. 3. As increasing the quantity of chyle by its action on the elements of the chyme. 4. As an excitant of the intestinal absorbents. 5. As a useful modifier of the blood, by diminishing the proportion of its water. 6. As a principal agent in the solution of albumen and fibrine. 7. As one of the agents tending to produce or increase the globules. 8. As a powerful coadjutor in the act of hematosis, without the aid of which the blood does not become reddened in its contact with oxygen. 9. As a valuable auxiliary in the intimate acts of assimilation and deassimilation.

M. Robinet, in reporting upon the memoir reserves his opinion of its scientific value, but does not hesitate to

compliment the author for his devotion in having thus undergone a saline regimen during 735 days, spread over 25 months of three different years, leading on several occasions to so much indisposition as to call for blood-letting. *Brit. and For. Med.-Chirurg. Rev.*, Jan., 1850, from *Bulletin de l' Acad. de Med.*, tom. xiv. pp. 1028, 1077–'80.

On the Identity or Non-identity of Typhoid Fever, Typhus Fever, and Relapsing Fever. By W. JENNER, M. D., Professor of Pathological Anatomy, University College, London, (*Proceedings of the Royal Medical and Chirurgical Society*, Dec. 11, 1849.)—The author, at the commencement of his paper, remarks that, for many years, small-pox, measles, and scarlet fever were confounded under one name, and that it was only after the publication of Dr. Withering's essay, that measles and scarlet fever were regarded as distinct affections—i. e., distinct as to their course, their symptoms, their lesions, and their causes. Typhus fever, typhoid fever, and relapsing fever are yet by many looked on but as varieties of one disease. But the writings of Dr. Gerhard, M. Valleix, and Dr. A. P. Stewart, have rendered it highly probable that typhoid fever and typhus fever are absolutely distinct from each other—two species of disease, and not varieties of one affection. In the Monthly Journal of Medicine of the present year, the author has analyzed the course, symptoms, and lesions of structure found after death in a certain number of cases of fever, and this analysis, he thinks, proves that, as regards their course, symptoms, and lesions, no two diseases can be more distinct than typhus and typhoid fever. But small pox, measles, and scarlet fever differ also in respect of their exciting cause, which, in the case of each of these diseases, is specific. In like manner, typhoid fever, typhus fever, and relapsing fever must require for their production the application of distinct specific causes, if they be distinct diseases. To inquire whether the specific cause of each of these diseases is distinct, or whether the cause of all these is the same, is the author's object in the present paper. He first describes the peculiarities of the course and symptoms of relapsing fever, and of the skin eruption of

typoid fever and of that of typhus fever, on which the diagnosis of these diseases rests. He then gives three tables, showing all the instances in which two or more cases of fever were admitted from one house into the London Fever Hospital in the years 1847, 1848, and 1849; the age, sex, and degree of intimacy of the individuals, as well the nature of the disease under which they labored; and for the years 1848 and 1849, the number of all cases of fever admitted into the Fever Hospital during the separate months, with the rash of typhoid fever and that of typhus fever respectively. The results exhibited in these tables are: 1st. That, in 1847, there were five instances of the admission of two or more cases of typhus fever from the same house, two instances of the admission of two cases of typhoid fever from the same house, and five instances of the admission of two cases of relapsing fever from the same house, and not a single instance of cases of the three diseases, or even of two of them, coming from the same locality. 2d. That, in 1848, two or more cases of typhus fever were admitted from each of thirty-three houses, and two cases of typhoid fever from each of four houses; while there was only one instance of a case of typhus and one of typhoid fever being admitted from one house; and in this exceptional instance there is reason to believe the patients received their diseases from different sources. 3d. That, in 1849, two or more cases of typhus fever were admitted from each of eighteen separate localities; and two or more cases of typhoid fever from each of four localities; while in not a single instance was a case of typhoid fever and a case of typhus fever admitted from the same house. 4th. That, in 1847, the relapsing fever, typhoid fever, and typhus fever, and, in 1848 and 1849, the typhus and typhoid fevers, prevailed simultaneously in the metropolis; and, nevertheless, that the cases of these several diseases came to the hospital from distinct localities. In 1848, there were received into the fever hospital 118 cases of fever with the rash of typhoid fever, and 390 with the rash of typhus fever; in 1849, 118 with the rash of typhoid fever, and 143 with the rash of typhus fever. As, therefore, about one-fourth of all the cases of fever admitted in 1848, and nearly half of those admitted in 1849, were cases of typhoid fever, the author argues that, in

the numerous instances in which two or more cases were admitted from one locality, cases of typhoid fever ought to have been mingled indifferently with cases of typhus fever, in about their proportion in the two years, if the cause of the two diseases were identical; while, as has been shown, from all the localities which yielded cases of typhus, there came but one case of typhoid fever. He remarks, moreover, that an increase of the epidemic prevalence of one of these kinds of fevers had no influence in increasing or diminishing the absolute number of cases of the other kind of fever; that no transition-cases were observed, marking the passage of one epidemic constitution into another; that the rash of typhoid fever and that of typhus fever were not modified in their characters by variations in the prevalence of other kinds of fever; and that the absence or presence of lesion of Peyer's patches and the mesenteric glands always corresponded with the symptoms of the particular cases during life, and did not depend on the epidemic constitution. The author then adduces some particular instances, in which a succession of cases, coming from the same locality, or apparently arising from the same cause, all presented the same characters. And, in conclusion, he remarks that the facts contained in this paper appear to him to prove, incontestably, that the specific causes of typhus and typhoid fevers are absolutely different from each other; and to render it in the highest degree probable that the specific cause of relapsing fever is different from that of either of the two former.

In the debate which followed, Dr. Jenner stated that, like others, he had seen cases of typhoid fever in which there was no eruption; and he spoke now of the spots, when present, only as a means of diagnosis. It must be remembered that in scarlet fever and measles the exanthem was occasionally absent; and this would serve to point out the inconsistency of those who sought to associate typhus and typhoid fevers, because occasionally there was no eruption. The mulberry spots in typhus, at first, in many cases, bore a close resemblance to the rose-colored spots of typhoid fever; so that in a few cases they might be regarded as exactly similar. His experience, however, fortified by 2,000 cases, enabled him to assert that if, by the eighth day of the disease, the erup-

tion presented the true typhous character, then, if death ensued, intestinal lesions would not be discovered. Dr. Baly's cases, to be of any service in determining the diagnostic value of the eruption, must be confined to the fatal cases, where the after-death appearances were described: and these appearances had not been mentioned by him. With regard to the opinions of Dr. Crawford, respecting the influence of impurity of the atmosphere and locality on the eruption, he might state that the Fever Hospital received patients from all parts of London, and its neighborhood. Personal observation of houses, in these various localities, had not enabled him to observe any difference in their hygienic conditions. It must be self-evident, that no very great impurity of atmosphere existed in the Fever Hospital, when no such change as that mentioned by Dr. Crawford, he (Dr. Jenner) could distinctly deny, ever occurred. He agreed with Dr. West, that infantile remittent fever was really typhoid, and never gave rise to typhus. He reminded Dr. Stewart that, in his published essays, he had described a fatal case of typhoid fever from relapse, in which the eruption appeared for the second time. The fact of Dr. Christison having suffered three times from typhus fever was no evidence that typhus fever occurred more frequently than typhoid fever in the same person; because he might have had the three different forms of fever under discussion, all of which Dr. Christison might regard as simple continued fever. After some remarks on the concurring testimony of Dr. Gerhard, Dr. Shattuck, Dr, Stewart, and himself, respecting these fevers, he observed that it was a frequent occurrence, in the Fever Hospital, for patients affected with typhus and typhoid fevers to lie side by side in the same ward, each disease preserving its own peculiar symptoms.

THE WESTERN JOURNAL.

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LOUISVILLE, JUNE 1, 1850.

DEMONSTRATIVE MIDWIFERY.

We are gratified in seeing that the Medical Journals, of this country are expressing themselves very properly upon the recent *emeute* got up in Buffalo, by some seventeen physicians, on the subject of demonstrativ midwifery. In addition to the remarks made in the May number of this Journal, very excellent and appropriate editorials have appeared in the New York Journal of Medicine, the New Orleans Medical Journal, and the Western Lancet, published at Cincinnati. They all speak approvingly of the course of the Professor of Obstetrics, in the Buffalo Medical School.

It is a matter of surprise and sorrow to us, that even seventeen medical men in one city, could be induced to sign such a letter as the one addressed to Prof. Austin Flint, and to the character of which we referred in our last number. We can easily imagine precisely such professional *esprit du corps*, and enterprise, as were exhibited by the immortal seventeen at Buffalo, manifesting itself in Rome, against Galen's desires for anatomical knowledge. A letter could easily have obtained numerous signatures, denouncing *post mortem* examinations, and dissections of the human body, as "unprofessional in manner, grossly offensive, alike to

morality and common decency," subversive of the public virtue, and an outrage upon the gods. There is but little doubt, that just such exemplars of professional honor, advancement, and utility, as are to be found in Buffalo, were among those great names in the medicine of Rome, who drove Galen away from the city, and kept him down, until the fires of his genius consumed the moths that flitted around the flames of the reputation of the illustrious Greek.

Dr. Wm. Shippen had to stem the tide of just such absurd and groundless prejudices, as the Buffalo medical protestants urge, when he attempted to *practice* midwifery in Philadelphia. A great outcry was raised against the illustrious Shippen—his attempt was looked upon as "unprofessional in manner, and grossly offensive to morality and common decency," but Shippen survived these "ghostly rappings," and paved the way to the very general employment of male accoucheurs. By the way, would it not be well enough for the seventeen Buffalo gentlemen to consult the Rochester rapping folks, on what is "unprofessional in manner, and grossly offensive alike to morality and common decency?" Our Buffalo indignants should remember too, how nearly Cotton Mather and Boylston came to the loss of their lives by introducing inoculation. The "inflammatory" doctors of the day appealed to the "masses" and raised a storm.

The various medical journals, we have named above, take strong ground in favor of the utility of demonstrative midwifery. In connection with that point we have no kind of hesitation in saying, that there is no department of medical teaching, in which demonstrations—actual clinics, are more important. The eloquence of Buffon could not pourtray by description, to an adult, anything like as correct an idea of an elephant, as a child would acquire from a few moments' view of the living animal; nor could all the teaching of Cazeaux or Churchill convey to students such ideas of the mechanism of labor, as they would derive from attendance upon one case. We have been often requested by students of the medical school, of this city, for permission to attend upon some case of obstetrics with us, and opportunities have occasionally occurred for granting the privilege. Some of these students were young men who had graduated with great honor, and who could describe all of Baudalocque's presentations with the most perfect accuracy, but when they examined for the particular presentation in the living case, they were unable to tell whether they were about to encounter a hip, shoulder, or head presentation. And these gentlemen have all declared that

they derived more useful knowledge from the actualities of a labor, than from all their previous instruction. Mannikin instruction is but the shadowy form of an obstetrical clinic; the living case is absolutely essential, to the proper preparation of a graduate, for passing into practice, and all efforts for paving the way towards an extended series of demonstrative midwifery, should be hailed by the profession, and by the public as laudable, and worthy of all honor and praise. The law is fierce upon forced resources for dissection, but neither the law, nor public sentiment attempts to disturb those voluntary gifts that are occasionally bestowed upon the anatomist. And this marks the line for demonstrative midwifery. If females can be found, who are willing to make themselves a part of a successful course of obstetrical instruction, they should be encouraged in the good work, and those *medical* men, who attempt to obstruct such progress, and who, with incendiary motives, talk of getting up mass meetings on the subject, deserve to be branded as unworthy members of a noble profession, and as recreants to the cause of science. They are "unprofessional in manner and grossly offensive, alike to morality and common decency." It is the duty of every medical man to advance his profession by every means in his power, and all the resources of teaching will never boast of preparing neophytes, too well for practice.

On the subject of the morality of demonstrative midwifery, we expressed our views in the May number of this Journal, and we are convinced that demonstrative midwifery may be so conducted as to be of vast utility to students, and be quite as moral as a lecture upon chemistry. Those females who may be induced to submit themselves for demonstration are not necessarily immoral, there is no kind of immorality in the teacher's desire to thoroughly qualify his students, and there can be none in the aspirations of the students after knowledge that is of the highest importance to them. Where then is the possibility of wrong to any one, or to anything in this matter? We hope to see the day when demonstrative midwifery will be an essential part of medical teaching, and that day will assuredly come, as certainly as other clinical teaching has come to be regarded as necessary. The necessity now felt, every where for hospital instruction—a necessity that is driving medical schools to large cities, will grow until demonstrative midwifery is placed upon a secure basis.

The prudish "Miss Nancies," of Buffalo, have, unintentionally, conferred a benefit on the medical profession. Their excessive modesty and

shame-facedness have aroused attention to the subject of clinical midwifery, and this attention will urge forward the good work. We can easily imagine an innocent, childlike simplicity, that would put pantalets upon the legs of a piano, and that would screen with a veil, everything capable of exciting prurient ideas, but we do not like to see this excessive flirtation with modesty, introduced into medical teaching. A misplaced irritation of the blushing organs operated upon the seventeen Buffalo doctors, and induced them to ease their tender consciences, by a protest. May the Heavens smile serenely over their innocent slumbers! But while they sleep with Rip Van Winkle devotion, or with Barney O'Rierdon's "attention," we pray them not to disturb medical teaching with their snoring. They may sleep as much as they please, but the profession should be awake. The oil in the lamps of the "seventeen" foolish virgins may burn out, but we wish to see the lights of the profession continually replenished, so that perpetual lamps may be lighting the path of progression.

An Historical Sketch of the State of Medicine in the American Colonies, from their first Settlement to the Period of the Revolution. By JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons, in the city of New York, &c. Second edition. 1850.

We cordially thank Dr. Beck, for this interesting brochure, the title of which heads these romarks. The author has redeemed much valuable matter from oblivion, and presents it to the profession in a fascinating form. The pamphlet contains a record of the pioneers of the medical profession, on this continent, and of many noble spirits and burning lights in their ranks. As a contribution towards a history of the North American medical profession, we hail this pamphlet with sincere satisfaction. The sketches of Drs. Morgan, Lloyd, Wm. Shippen, Mitchell, of Virginia; Lining, Douglass, of Boston; Ogden, Thomas, of Virginia; Manson, Bayley, Chalmers, Gardue, Clayton, of Virginia; Tennent, a relation of Dr. Richard Meade, of London; Cadwallader, Bond, Colden, Bard, Middleton, Jones, of New York; are full of interest. We acknowledge ourself indebted to Dr. Beck, for some delighted reading hours.

DR. DRAKE'S TREATISE.

The first volume of Dr. Drake's long expected work has at length made its appearance, under the title of "*A Systematic Treatise, Historical, Etiological, and Practical, on the Principal Diseases of the Interior Valley of North America, as they Appear in the Caucasian, African, Indian, and Esquimaux Varieties of its Population,*" and, in advance of a more extended notice which we hope to prepare for our next number, we hasten to give our readers our first impressions of the work. We have for a number of years been familiar with the plan of this treatise, having seen several of its first chapters in manuscript. We have been apprised of the extraordinary labor of its author in collecting the materials of which it is composed. We fully understood, all along, that it was no part of his design to compile a treatise from the published works of others, but to explore for himself the sources of disease in the great interior valley, and to record his own experience and that of his brethren, touching the disorders incident to that region. The plan is an enlarged one and imposed a task of vast magnitude upon its author. In the fulfilment of it, he has found it necessary to visit every quarter of this extended region, from the Gulf of Mexico to the Lakes, and from the brow of the Appalachians as far West as civilization has reached towards the Rocky Mountains. Thus aware of the energy and laborious industry with which its gifted author was devoting himself to his work, we have looked forward to its completion with deep interest and with large expectations.

These expectations Dr. Drake has fully met in the first volume of his elaborate work. Without pretending to assert that it is as perfect as it might have been rendered, we take great pleasure in saying that it is a volume which, in our judgment, does honor, not only to its author, but to our country. Errors will be pointed out in it which future editions will not contain; and in time, upon the foundation which it has laid, other treatises marking the progress of medical science will appear; but the time will hardly come when it will not be quoted by writers on the diseases of America. Himself a pioneer, Dr. Drake is fortunate in having written a book which must remain long a guide to those who shall come after him in this field.

We have not room, at present, to particularize, but will merely add, that Dr. Drake has produced an original work. The contents of this volume are such as can be found in no other volume besides. In it he

has given to the profession the results of what he himself has seen and experienced, or what has been observed by others in the region to which his treatise relates; and as a record of original observations it is unrivaled by any work on medicine yet written in our country. There is no need that we should recommend such a work to our readers; they will be in haste to procure it, and to possess their minds of its rich scientific stores. Although but the first of two or three volumes, this volume is complete in itself and would not be less interesting or less valuable if the remainder should never appear. We are glad, however, to know that the indefatigable author is still industriously engaged upon the work, and that most of the materials for its consummation are already collected. Y.

MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT CINCINNATI.

This was one of the largest assemblages of delegates, that the objects of the Association have called together. It was perhaps excelled by the meeting in Boston.

Among the earliest duties of the Association was the election of officers. The Association confirmed the selections of the committee, appointed for this purpose. The following are the names of the officers, for the ensuing year:

President.—Dr. R. D. Mussey,of Cincinnati.

Vice Presidents.—Dr. J. B. Johnson, of Missouri, 1st; Dr. A. Lopez, of Alabama, 2d; Dr. D. Brainard, of Illinois, 3d; and Dr. G. W. Norris, of Pennsylvania, 4th.

Secretaries.—Dr. Alfred Stillé, of Pennsylvania; Dr. H. Desaussure, of South Carolina.

Treasurer.—Dr. Isaac Hays, of Pennsylvania.

We must reserve our remarks on the proceedings of the Association, for another number.

The Ohio Medical and Surgical Journal, complains that the *Western Journal* is not received in exchange. Why this is so, we cannot tell, for our Journal is regularly mailed for the Ohio Medical and Surgical Journal. The arrangements respecting the transmission of medical periodicals are as bad as they can well be. We often fail to receive at least one half of our exchanges, but we know of no way of remedying the evil.

DR. DOWLER ON DEATH.

Dr. Dowler, of New Orleans, has attracted some attention, this winter, by his papers on the vivisection of the Southern saurian. The experiments were repetitions of a suite previously performed by Professor Le Conti, of Georgia, who has recently reclaimed them. Dr. Dowler has made a satisfactory response, in the last number of the New Orleans Medical Journal, to the Professor's complaint. In a late number of the New Orleans Medical Journal, the editor announced that Dr. Dowler was then engaged on a paper that would be likely to create a sensation. Through the courtesy of Dr. Dowler, we have received a copy of the paper referred to, and we have read it with some degree of pleasure, but with less satisfaction than we anticipated. The paper is entitled, "Researches on the Natural History of Death," and it contains not only a review of the action of the French Academy on what is called the Manni prize, but Dr. Dowler's own experiments and deductions, on the test of death. In order to understand the subject, the reader must bear in mind, that in 1837, "Professor Manni, of the University of Rome, proposed a special prize of 1500 francs, to be awarded by the French Academy, for the best work upon the subject of apparent death; with the view of preventing premature interments."—This prize was carried off by M. Bouchut, and he divides "the certain signs of death into *immediate* and *remote*. The first consists in: 1. The prolonged absence of the signs of the heart; 2. The simultaneous relaxation of the sphincters; and, 3. The sinking of the globe of the eye, with loss of transparency of the cornea. The first of these alone, is regarded by the committee as conclusive. The remote signs are: 1. Cadaveric rigidity; 2. The absence of muscular contractility under the influence of galvanism; and, 3. Putrefaction."

The first of the *immediate* signs of death, thus laid down by M. Bouchut, "cannot," according to Dr. Dowler, "be a general test, because stethoscopists are rare, and in the best hands is often not attainable." This does not seem to us a valid objection; if the test offered by M. Bouchut is the best one, that gentleman, backed by the authority of the eminent body who were appointed to judge the case, is clearly entitled to the prize. That which is the surest test, may not always be the most easily reduced to practice, while that which is most attainable, may not be the best. Take, for example, Dr. Dowler's "improvement" on M. Bouchut's test—the use of thermometers. Dr. D. considers that

they afford a more unerring indication of the presence of death, than the absence of sounds in the heart. Would Dr. Dowler consider his own test fairly objected to, by the declaration that there were places where thermometers could not be readily obtained, and that they might fall into the hands of persons who did not know how to use them? This is precisely the character of Dr. Dowler's objection to M. Bouchut's test.

But again:—Dr. Dowler says: that the Academy and M. Bouchut are guilty of, what logicians call, *petitio principii*—"they take for granted what should be proved," and Dr. D. asks triumphantly: "Who has proved that the heart, like the pulse, like every other organ, may not fall into *temporary quiescence or inaction?*" Analogies are urged to show that the heart does fall into this condition, and saurian facts are referred to, which establish that a heart may act after it is cut out of the body: thus, an alligator's heart may be taken from his body and emptied of its blood; the alligator may then be roasted, the heart put back, and upon the application of the stethescope, "the dead will afford M. Bouchut's certain sign of life!"

With all due deference to Dr. Dowler, we think this is rather worse than what he charges on the French Academy and M. Bouchett—they only begged the question; Dr. Dowler changes its terms. M. Bouchut's test is founded on the *sounds* of the heart; Dr. Dowler undertakes to represent that it is based on the *movements* of the heart. The first sound of the heart may be admitted a muscular one, though we do not believe it, but about the second there can be no controversy—that is *valvular*, and may be produced by the passage of blood, or the consumed passage of air, moving both through the auricles and ventricles. Dr. Billing, in his admirable work on "The Principles of Medicine," shows that *both sounds are valvular;* Mr. Brakyn, of Trinity College, Dublin, has demonstrated the truth of Dr. Billing's views beyond all contradiction, and as these sounds are *valvular*, what force does Dr. Dowler find in his facts of muscular contraction in the exsected part? And how can he consider M. Bouchut and the French Academy antagonistic to his roasted alligator, and a heart emptied of its blood? Dr. Dowler does not invalidate the integrity of M. Bouchut's test, by his reasoning or assumptions. Mr. Brakyn represented recently that Dr. Stokes, of Dublin, had said he had "noticed in typhus fever, that patients, after the fever had progressed some time, and great debility had supervened; ceased to have any sound of the heart, though circulation continued. Sometimes, however, *the second continued*, the first being

absent," &c. But Dr. Stokes has made a reclamation in the London Lancet for April, and says:

"I have shown that in a few cases a returning impulse is perceptible before the development of the first sound; but the statement that the heart may act with considerable energy for days, without producing any sounds, is altogether opposed to fact."

In our judgment, M. Brachat, in an article inserted in the Gazette Médicale de Lyon, has made a more philosophical assault on M. Bouchut's "infallible sign," than this of Dr. Dowler's. M. Brachat establishes, very conclusively, we think, the following facts, and they are serious obstructions to the reception of M. Bouchut's chief test:

"The survival of the organic over the cerebral life, may be manifested in other ways than by the contractions of the heart. Hemorrhages have occurred, sweatings continued, and the beard sprouted, after the cessation of cerebral life; and from the fact of the capillary circulation sometimes thus continuing, M. Brachat believes that we may discover a sign of death at least as important as that derived from the auscultation of the heart's action. As long as this circulation continues, ganglionary death has not taken place, and there is a possibility of the organic life reacting on the suspended cerebral life, and restoring it. The means of acquiring a knowledge of whether the capillary circulation does thus continue, consists in pricking a part abounding in capillaries, as the lips or the tongue. A droplet of blood presents itself if the circulation persists, which is never the case when life is extinct. This has often been verified in cases of asphyxia and apoplexy. For the same reason, as long as boiling water produces phlyctenæ, and mustard excites the redness of the skin, life is not entirely extinct in the exhalants and capillaries.

"Thus the two lives may be separately extinguished; the one surviving a while the other, especially the ganglionary. The most enduring actions are the contractions of the heart, the capillary circulation, the secretion of the skin, the increase of the hair."

Dr. Dowler undertakes to commend the use of thermometers as a test, superior to any that have been named under the Manni prize. This test assumes that nothing is taken for granted, without the most indubitable proof. The axiom is declared, that "man, in his living state, maintains an uniform temperature, independent of the surrounding media, while a dead man, like other inert matter, has no independence of this

kind, but steadily responds to, and is governed by, calorific conditions altogether physical," &c.

We think Dr. Dowler assumes a great deal in this proposition. He begs the whole question with quite as much mendicity as the French Academy and M. Bouchut do. May we not ask Dr. D. his own question? "Who has proved that the heat-generating function may not fall into temporary quiescence or inaction," as well as the heart? We should like to hear this question answered.

Dr. D.'s paper has not been drawn up with the care it deserved. Passing over other blemishes, we venture to ask why Dr. Dowler permits himself to use such language as the following, which we find on page 20: "blood that *has underwent* refrigeration." Such things are spots upon the Doctor's reputation as a writer, and he should be more careful in future.

But we must bring these remarks to a close, although there are other portions of the Doctor's essay that require notice.

ST. LOUIS MEDICAL JOURNAL.

We inadvertantly omitted an acknowledgment of the revival of this work in our former number. It was suspended by the great fire in St. Louis, but we hope it may now go on rejoicing in strength and usefulness. The only change that has been made in the editorial department is in the substitution of the name of Dr. John B. Johnson, as one of the editors, in place of Dr. Joseph N. McDowell. We formed a very favorable opinion of the new editor during our attendance at the recent meeting of the National Association of Physicians.

SUMMER INSTRUCTION.

We invite attention to the card, on the cover of this Journal, of Drs. David W. Yandell & R. J. Breckenridge. These gentlemen offer an excellent opportunity to students, to enjoy bed-side clinics, and we advise those desirous of this species of improvement in sound medical knowledge, to commence with the beginning of the course in July.

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A REPLY

TO THE

ATTACKS OF DR. CHARLES CALDWELL.

BY

LUNSFORD P. YANDELL.

LOUISVILLE, KY.

PRENTICE AND WEISSINGER.

DR. YANDELL'S REPLY TO DR. CALDWELL.

I find myself placed in strange circumstances. An old friend, with whom I have cooperated in many enterprises, with whom I have lived long in the interchange of kind offices, whom I have often praised and defended, has become my defamer. I am about to reply to an envenomed personal attack lately made upon me in a public print by Dr. Charles Caldwell. I confess, on account of the age of my assailant, the character of his attack, and the relations which have subsisted between us, I do so with extreme repugnance. I am not without misgivings as to the propriety of making any reply. The charges are so vague and contradictory, the spirit and temper of the attack are so unbecoming, the style in which it is made is so feeble, the production, altogether, is so pitiably imbecile, that my friends here generally think that I might safely leave it to its own sure fate. But in consideration of the position which my assailant once held in his profession and of our long association in office, I have concluded that I ought not to let such charges pass unnoticed, however driveling the manner in which they are made.

The occasion of this assault upon me by Dr. Caldwell is his removal from the chair which he formerly held in the University of Louisville. He professes to believe that it was through my influence with the Board of Trustees that he was removed. The board saw fit to transfer me to the chair which he had occupied, and he assumes that, therefore, the members were my dupes and tools. He charges that I neglected the duties of my chair, as, in letters to the faculty and board, last spring, he asserted, that I had "disgraced it for twenty years," and yet he contends that by my intrigues with the board I was able to accomplish his overthrow. And all this I did, as he expresses it, after he had "rescued me from obscurity, and elevated me to the chair I then held, and by his patronage and uninterrupted favors, extending through nearly an average lifetime, had contributed to sustain me in it."

These are his charges. They are vaguely stated in his "Story"—rather insinuated than asserted;; but some of them have been long in circulation; they have been repeated for months past wherever Dr. Caldwell has gone, and have been propagated industriously by his friends in low, abusive handbills.

It is not a new story with Dr. Caldwell, that he "rescued me from poverty and obscurity." This boast he made a number of years ago, and under circumstances which will throw some light upon his present attitude towards me. In the spring of 1843, he published an unlucky "critique" upon Liebig's Animal Chemistry, which, as editor of a medical journal, I felt it to be my duty to notice. My review, though less severe than the [illegible] About that time he had bought a printing press for a creature of his, one *William Newton*—well remembered in Lexington and not altogether forgotten in Louisville—and had set his pet up as editor in Evansville. The first number of the paper of this parasite and *special* favorite of Dr. Caldwell contained the following paragraph:

"Professor Caldwell had been to him (Professor Yandell) a friend and a father. He had instructed him in his ignorance—supported him in his weakness—supplied him in his poverty—and defended him in his need. But, notwithstanding all this, what do we see? With a shameless ingratitude that can receive no excuse, he turned his pen against his benefactor," &c.

From all this, the reader would conclude that I had been a *beneficiary*—a regular *charity-pupil* of Dr. Caldwell's; and this is just the impression he has sought to make whenever he has spoken of me for a good while past.

Poverty is no crime. If it had been my lot to be born poor I trust I should have been above the weakness of wishing to conceal it. But I was not born so; for my venerated father, though not a man of great wealth, was a physician of great popularity, and commanded in his profession, for many years and to the end of his life, a large and profitable business. He was, moreover, as a great physician must be, of an enlarged and liberal spirit, and strove to give his children a thorough education; so that during my minority I enjoyed every advantage that money could bestow. He sent me to Lexington in the fall of 1823, and I attended Dr. Caldwell's lectures; but I also paid him for them. Besides his public ticket of $20, he had a private ticket, for which I also paid him $20. In the course of that winter he published the first edition of his "Elements of Phrenology," and, by reference to a diary which I kept at the time, I see that I subscribed and paid him for *ten copies* of that work. So much for the charge of having been his "beneficiary"—a charge so contemptible that I should have deemed it unworthy of notice if it had not been coupled with others of a more serious character. Dr. Caldwell himself would have scrupled to make it, if he had not felt that it was necessary to give point and keenness to his other accusations.

But Dr. Caldwell claims to have "rescued" me "from obscurity," and "elevated" me "to the chair" I lately held, and "by his patronage and uninterrupted favors, extending through nearly an average lifetime, contributed to sustain me in it." In another place he says, I "neglected to labor" in this chair to which he "elevated" me, and in which he so long sustained me. In the streets, on the highway as he

years." I might stop here for a moment and compare these two statements together. It might be a question how far a professor acted in good faith to institutions which he had sworn to support, when he kept an unworthy colleague in office so long. But I leave this to be settled by Dr. Caldwell, and proceed to notice his boast of "rescuing" me "from obscurity."

It is true that when I set out in my profession I was obscure, precisely in the sense in which every young professional man is obscure. But it was not long, as Dr. Caldwell knows, before I had succeeded to the large and lucrative business of my father, and was therefore at least independent. My reputation, humble as it was, in a few years extended beyond the county in which I lived, and, as Dr. Caldwell also knows, I had been on several occasions called to neighboring counties to perform difficult operations in surgery long before I was invited to the school in Lexington. I had become a contributor to some of the leading papers in my native State, and a correspondent of more than one medical journal. I do not pretend that there was in those early effusions much to be praised, but I happen to have before me an expression of the opinion they led *Dr. Caldwell* to form of my abilities as a writer. In a letter dated December 18th, 1827, he thus speaks of two of my earliest efforts: "Your very excellent and elegant papers have been received, and submitted immediately to the inspection of our editors. I need scarcely say to you that they concur with me most perfectly in my estimate of the articles. Indeed not thus to concur would prove them to be wanting alike in scientific judgment and literary taste. For without the slightest disposition to flatter, or to express an idea which I do not honestly believe, permit me to assure you, that, if I have any competency to judge, the papers are both written with an amount of intellect and in a style and manner that would be honorable to any pen in our country, and creditable and advantageous to *any* journal in *any* country."

In reference to the same papers, which I had requested him to correct if he discovered any inaccuracies in them, he remarked, in a letter dated a few days subsequently: "Your two papers in our possession need no correction. *Alter* them I *could*; *amend* them I *could not*. *Possibly* in correcting the press, I may change a *word* or a *point*; but *probably* I shall deem even that unnecessary. I shall not *supererogate*." The italics, in both extracts, are Dr. Caldwell's.

In the same letter he says:

"I forwarded to my friend, President Cooper, of South Carolina, a copy of my Elements. I think it probable that he will make a paper out of it for the Southern Review. It is right you should know this, as I confess myself ambitious that the *best* review of it should appear in our own journal. Cooper is a powerful writer; but your superior knowledge of the science gives you the advantage. I feel persuaded, therefore, that you *can* produce the best paper. But you must *labor* for it. *Common* writing and analysis will not do to compare with those of Cooper. He is altogether uncommon, both in intellect and scholar-

Of an address which I delivered in Nashville, in the fall of 1830, he thus spoke, in a letter dated Dec. 5th:

"Your address I consider the best production I have seen from your pen. Indeed I know not how it could be improved. Added to as good a selection of topics and points, as I think can be made, its spirit is animated, its tenor lofty, its strain eloquent and impressive, and its diction correct. And what more, would you have? It is rich in appropriate matter and in manner neither tame nor mad—*ibis tutissimus medio*—and that is what it ought to be."

In the spring of 1830 the Medical Society of Tennessee, composed of delegates elected by the Legislature from all parts of the State, held *its first* meeting in Nashville. Dr. Caldwell was present at that meeting. That distinguished body of physicians did me the honor to elect me Corresponding Secretary of the Society. I record the fact here, because, in the circumstances attending it, I remember it as one of the most grateful honors ever conferred upon me by a profession to which I am so largely indebted.

The autumn ensuing, having removed to Nashville, I was conferring with my friends (among the rest, the Hon. John Bell, President Lindsley, and Dr. Overton) on the expediency of attempting a medical school in that city, and wrote to Dr. Caldwell asking his judgment in the matter. *His reply* was prompt and explicit. The scheme, which I had deeply at heart and which was favored by several of my friends, met with his decided reprobation. He says, thus emphatically:

"In the abstract, the scheme is unfriendly, *in fact*, to medical teaching, and therefore to medical science in the West. We are not yet ripe for *three* schools. Our population is not sufficient to maintain them in such numbers and standing as to make them objects of *attention* and *ambition* to competent men. They will necessarily dwindle in *strength* and *merit*. Instead of Atlantic pupils coming to *them*, as now, all western pupils of generous ambition, and who can command the means, will repair to the eastern schools. Western teaching will become a mockery. I repeat, then, that *should* a medical school be erected in Nashville, either *it* must fail, or *western medical teaching* will fail. I say definitely, then, that the measure is unfriendly, *in fact*, to the profession in the West. Can it not be postponed, at least, until society is ripe for it, or arrested for the present altogether?"

But the most significant part of his letter is behind, and reads thus:

"Our chemical chair has fallen into such a condition as to call imperatively for reformation and additional strength; and you are looked to, at present, for that purpose. * * * Tell me frankly, then, and as speedily as you can, could you not, without robbing yourself of too much of your professional time, prepare yourself, in a year from this date, to deliver lectures on chemistry, creditable to yourself and useful to others?

tion? I reply that I know it. Chemistry was never my first choice, any more than it is yours; yet when I was perhaps under your age, I delivered in Philadelphia a number of chemical lectures which were pronounced among the best, if not *themselves* the best, that had been listened to in the place. In the course of my experiments I inflamed charcoal with nitric acid, the *first time* it had ever been done in the United States, and after Woodhouse had repeatedly failed to do it, and had even pronounced it *impracticable*. Can you not, then, I repeat, prepare yourself on this branch," &c?

In a letter on the same subject, dated February 11, 1831, he thus wrote—

"The chair must be strengthened. The necessity for it acquires *every hour* the growth and strength of a *whole week*. And you are the only man thought of, or even dreamt of, by the faculty."

Dr. Caldwell's wishes were gratified, and I was placed in the chair. The following notice of my appointment appeared from his pen, shortly afterwards in a Nashville paper:

"Another measure has been recently adopted by that institution (Transylvania University) which, it is believed, will be important. The professor of chemistry, whose knowledge of medicine was but limited, has retired, and Dr. Yandell, of Nashville, Tennessee, a young physician of fine talents and high promise, has been appointed to succeed him. That he is *well and favorably known in the West*, appears from his election to so important a chair. But *he is also known in the East* from his writings, which show him to be a scholar, as well as a man of genius. It cannot be doubted that the change will be beneficial to the school."

This was the obscurity, Dr. Caldwell himself being judge, in which his letter found me—"the *joint* letter," as he expressed it, of himself and three of his colleagues—inviting me to Lexington to "*strengthen the chemical chair*" in Transylvania University. The reader will form his own conclusions as to the motives which prompted to this invitaton. These prudent, wise, discreet professors may have felt a benevolent desire to "rescue" a young man from "obscurity;" but I submit whether it is not quite as probable that they had it in their minds, while they "strengthened" their chemical chair, to "arrest" the enterprise at Nashville and conciliate a State which, next to Kentucky, was furnishing the largest number of students to their school?

But after "elevating" me to the chair, Dr. Caldwell charges that I "disgraced" it. In noticing this charge, I must again permit Dr. Caldwell to answer himself.

He did me the honor to attend my first course of lectures in Lexington, and as he listened to them with much apparent attention and interest he ought to have known something about their merits. Early in the session, writing to a common friend, the late Dr. Becton, of Tennessee, he remarked of me: "Dr. Yandell is doing his duty in fine style and growing rapidly popular." Dr. Caldwell's students of that period will long remember how his views were all knowledge, and how fervid were his eulogies on t young professor of chemistry. Some of them resi in this city and have favored me with their remi scences of the winter of 1831–'2. Dr Bell retain lively recollection of the incidents of that wint Dr. Caldwell, as all his earlier pupils know, h been in the habit of speaking lightly of chemist "It is an *uncertain* science," he was in t habit of saying—"*far less reliable than phrenology*." He had penned in his outlines, the te book of his class, some allusions to it whi showed how it was held in his estimation. T students, says Dr. Bell, were curious to s what the Professor would make of these passag now. There they stood in his book before hi When he came to them, instead of the jests w which he had been wont to set the class in a ro he broke forth into a warm panegyric on the cour of lectures which was elevating chemistry in th institution to the dignity of a science. In one wor it was plain that Dr. Caldwell esteemed this, n first course of lectures, *nearly* equal to that course his in Philadelphia, in which he performed the mous feat of inflaming charcoal by nitric acid. N was this all. So effectual was his applause of r lectures, that Dr. Richardson, who had opposed r election, was brought over by it, and was obliged confess that I had "*reinstated* chemistry." And the spring following, if Dr. Bell remembers rig these gentlemen could not sufficiently express th admiration at the extent and accuracy of the chem ical knowledge displayed by the candidates in the examinations before the faculty.

Such, at least in the estimation of Dr. Caldwe was the character of my first course of lectures Lexington. Under the new organization, the nu ber of students increased, and the institution co tinued to prosper up to the period of the dissoluti of the faculty in 1837.

Dr. Dudley, for a long time, had been complaini to his colleagues of the difficulty of procuring su jects for his demonstrations in anatomy, and in t fall of 1835 he declared that the evil had become i supportable. He was obliged, he said, to dwell i weeks on the bones because he was without a su ject for demonstrating the soft parts. Nay, he w obliged to persuade students not to dissect, in ord to prevent the discovery that he had no subjects i dissection. If the school remained in Lexington, his mind it was clear that it was "destined to *fr ter*." The effect of such a confession upon the min of his colleagues can be easily conceived. It w plain to them that if they would sustain themselv they must get to a point where subjects could be c tained, and with one consent they formed the resol tion to endeavor to effect the transfer of the medic department of Transylvania University to Lou ville. When the scheme came to be publicly d cussed, the citizens of Lexington were found to violently opposed to it. Dr. Dudley deemed it po tic to avoid the storm he had raised, and so protest that he had always been opposed to the plan of r moval. Dr. Caldwell was a most available scapegc

Lexington, and, as it could be shown that he had been active in promoting the transfer, it was easy to turn the tide of popular indignation against him. This, for a time, was done most effectually, but to some of us it appeared ungenerous and unjust that the oldest member of the faculty, and not the most popular, should bear the whole odium of a measure in which all his colleagues had participated. We declared, therefore, to the medical class and in all private circles, that all the professors had advocated the transfer of the school, but that the project was first proposed by Dr. Dudley and was especially his. The issue was, that Dr. Dudley quarreled with several of his colleagues, and preferred charges against Dr. Caldwell and myself before the Board of Trustees. The Board dismissed Dr. Caldwell, and, in the hope of restoring harmony among the remaining members, dissolved the faculty.

Preparatory to reorganizing, several leading members of the Board urged me to agree to accept the chair of the Institutes of Medicine, from which Dr. Caldwell had been displaced. My friends in Lexington, in Tennessee, and the few I then had in Louisville generally concurred in advising me not to connect myself with the enterprise projected in this city. Their belief was that the scheme was nearly hopeless, and that I would suffer pecuniary loss by embarking in it. But my resolution was taken. I could not think of remaining in Lexington after having heard Dr. Dudley's fatal confessions as to the state of his department, and I felt bound to aid Dr. Caldwell whatever aid I could after he had been, as I conceived, so badly treated by the Trustees in Lexington. Dr. Caldwell came to Louisville and made a speech to the citizens. He told them that he had been young but now was old, and that he had, at last, found out that *honesty is the best policy*. He had been many years, in violation of the dictates of conscience, laboring to sustain the school at Lexington, but had now come to labor, in good faith, in behalf of one in Louisville. To the Board of Managers of the Louisville Medical Institute he addressed substantially the same words. The citizens and Board of Managers took up the work with spirit and resolved to establish a school of medicine on the most liberal footing. Dr. Caldwell says he was *"pressier."* All the appointments, according to him, were made at his recommendation,

Now, if I had been disgracing the chair I held in Lexington, as Dr. C. asserts I did, was not this a favorable time for correcting the abuse? But did he seek to do it? On the contrary, my friends, Drs. Short and Cooke, can testify how deep and intense was his anxiety that we should all unite with him in the new enterprise. His letters, written to me at the time, are full of expressions showing how important he regarded this to the success of the school. "To destroy the school at Lexington beyond revival," he said, "nothing else is necessary than that Cooke, Short, and yourself be transferred to the school of Louisville." On the 22d of April, 1837, he announced to me, and, as he said, with *great pleasure*, my unanimous election to the chair of chemistry in the Louisville Medical Institute. He added: "Your presence in Louisville throughout the summer will be *important* if not *essential*. The field must be occupied by men of *action*—men to ride the whirlwind and breast the troubled wave. If you were here, I would set out for the East in two or three days."

I accepted the chair thus tendered to me. I should have accepted it, under the circumstances, if I had considered the prospects of the school far worse than they seemed to me. They seemed to me all that could be desired. Dr. Caldwell heard my first lecture in Louisville, and he wrote respecting it: "To pronounce it a brilliant effort would be a meagre compliment. It was the vigorous outpouring *of* a gifted, rich, and cultivated mind. It manifested as much of sound judgment and professional attainment as of imagination, scholarship, and taste; and it abounded in them all. Its most valuable element, however, was the *spirit of truth* with which it was instinct from beginning to end." The Italics everywhere in these quotations are Dr. Caldwell's.

Dr. Short having decided to remain for the time in Lexington, at the suggestion of Dr. Caldwell and Dr. Miller, which met my approbation, I was transferred by the Board of Managers to the chair of materia medica, and the following winter, the chair of chemistry being vacant, I discharged the duties of both professorships. In the spring it was understood that the valuable services of Dr. Short could then be obtained, and I cheerfully consented to return to the chair of chemistry in order that we might introduce into the school so estimable a colleague. A unanimous vote was passed by the faculty recommending the transfer to the board, and thus, by Dr. Caldwell's advice, I was placed a *third time* in the chemical chair.

Finally, on this point. In the autumn of 1846, Dr. Caldwell delivered the public introductory lecture for the faculty to the class. The Louisville Medical Institute had been merged in the University of Louisville. As a separate, independent institution it had ceased to exist. Dr. Caldwell undertook to pronounce its funeral oration, and it was a funeral oration such as would have come from no pen but Dr. Caldwell's. Such a school as the late Medical Institute of Louisville, he declared, the world had never seen. He exhausted his epithets of praise upon it, and, when his eulogy was ended, he declared to some of our common friends that "he could hardly resist the impulse to turn round and take Yandell by the hand and say, *Sir! you and I did all this. You and I made the school.*"

After this fashion it has been, if Dr. Caldwell may be credited, that I disgraced the chair of chemistry so long. But I hasten to conclude this vindication by noticing Dr. Caldwell's last and most serious accusation—that of having by my intrigues with the Board of Trustees brought about his removal from the school. He assigns no motive for this conduct in his published account of the matter, but he has been in the habit of saying that I procured his dismissal in order that I might succeed to his chair.

honorable gentlemen composing the Board of Trustees. It is an insult to common sense. Who constituted the board against which Dr. Caldwell brings this accusation? James Guthrie, W. S Vernon, James Marshall, S. S. Nicholas, W. F. Bullock, G. W. Weissinger, Isaac Everett, Chapman Coleman, Wm. H. Glover, James Speed, and Wm. H. Pope. I would ask, are these men to be tampered with—our judges, eminent lawyers, leading merchants, men of the first note in our community, as Dr. Caldwell justly remarks—some of them, *not*, as his phrase is, *"fierce,"* but consistent, Christians? It would seem a waste of time to answer such a charge involving such a body of men; and the more so as in making it Dr. Caldwell has not thought it worth while to refer to a single fact in proof, has not adduced the shadow of an argument, gives not the name of a solitary witness, but seems to flatter himself that the statement will be believed on the naked authority of his name. I might content myself with giving to it an unqualified denial, and defying its author to show anything in its support; but I will do more than this—I will show its utter absurdity.

The new Board of Trustees took possession of the school in April, 1846, and among their "by-laws" they ordained that a professor was superannuated at the age of sixty-five. This was regarded by Dr. Caldwell, and by everybody else at the time, as a delicate way of expressing to him the opinion of the board that the period had arrived when he ought to retire. This opinion was plainly expressed by several influential members of the board to different members of the faculty, and the belief was very general that if he did not resign he would be removed. This is known to all Louisville, except Dr. Caldwell. The faculty took steps to save him from this mortification; for, although even then a majority of the members agreed with the board as to the policy of his resigning, they were pained at the thought of his being forcibly expelled, and accordingly requested Dr. Miller and myself to confer with certain trustees, and satisfy them, if we could, that he ought not at that time to be disturbed. That season no movement was made by the board against him.

In the winter of 1847, toward the close of the session, a member of the Board of Trustees, whose name is known to Dr. Caldwell, said to me that he believed it was the determination of the board to move against Dr. Caldwell in the spring if he persisted in holding on to his chair. He added, that the measure would be unpleasant, and that Dr. Caldwell ought to save the board the necessity of resorting to it by sending in his resignation at the close of the course. And he concluded by asking me to go to Dr. Caldwell and urge him to resign. Another member, about the same time, expressed the same opinion, and made a similar request. The professors held frequent consultations on the subject, and their belief was nearly unanimous that Dr. Caldwell owed it to himself and to the best interests of the school to resign.

It was under these circumstances, and explaining expressed a hope that he would gratify the wish of his friends in the board and in the faculty. added, that, if he were my father, my advice him would be the same. In the course of our inte view, he asked me who was thought of as h successor? I replied, Dr. Bartlett. He refused listen to my advice; and shortly afterwards learn that he was accusing me in the streets of havi intrigued with the board to remove him.

He visited the members of the board personall represented to them that the receipts of his ch were necessary to the support of his family, but th in two or three years he would be comfortable, a would then resign. His appeal was successful; was suffered to remain. One session passed, and second was passing away. On the first night of Ja uary, 1849, his colleagues had a meeting. His ch was the subject of conversation, and the impressi with them was unanimous that his longer continuan in it was out of the question. It was understo that the Board of Trustees entertained the sa opinion. It was agreed, by all, that Dr. Bartl should be recommended to the board as his succ sor, provided that gentleman would accept; and t Dean of the Faculty was directed to open a corr pondence with him on the subject.

I have another fact to state. Some years since t faculty adopted a resolution to this effect: "Th whenever in the judgment of a majority of the f ulty the interests of the school were suffering by t connection of any professor with it, such profess on being requested thereto by his colleagues, sho resign without an appeal to the trustees." Dr. Ca well voted for this resolution and advocated it wa ly. With such a law in the faculty, I ask, what r son could any professor have to seek the interp tion of the board? It was ample, specific, and fu met Dr. Caldwell's case. There was no app from it. He had aided in passing it, and was bou by every sacred obligation to obey it.

In 1847, near the close of the session, the facu passed a resolution in respect to superannuation, which Dr. Caldwell felt himself instructed to resi He was assured that his colleagues entertained opinion that he ought. In 1849, some weeks bef he was removed, a letter was addressed to h signed by all his colleagues, requesting him to s in his resignation to the board.

Thus, I have shown that the present Board Trustees came into office convinced that Dr. Ca well ought to retire from the school—that one of th first acts was to pass a law expressive of that c viction—that, even at that time, nearly all his leagues, if not every one, believed the same thin that, two years before he was removed, influen members of the board, friendly to him, requested to go to him, as his friend, and *urge* him to resig that by a resolution of the faculty he was instruc to resign three years ago—and that, so far from pecting to succeed him in his chair, Dr. Bartlett the individual always mentioned by myself and my colleagues as his successor. And now, in viev all these facts. I ask, what becomes of this

I leave the decision to the candid reader, and here see my reply. So unprovoked, so unjust, so scurlous an attack as Dr. Caldwell has made upon me ould have justified, I know, in the opinion of any, something more than a vindication of myself. at I am not going to retaliate. I have been Dr. aldwell's friend. I have written much in his dense. In all his late troubles it was my wish to proct him, and, with my colleagues, I endeavored to ve him from the worst enemy his fame has in the orld—we sought to save him from himself. Nor I believe that he has a single judicious friend ho does not, this day, regret the infatuation which d him to reject our friendly counsel.

After the foregoing reply to Dr. Caldwell was type, a second attack upon me, far more urrilous than the first, appeared in the Louisville emocrat under his name. In this latter effusion my d friend has cast off all restraints and broken rough all the observances that regulate the interurse of gentlemen. His blind, impotent rage ows no bounds. His ribaldry is like the scolding a fishwoman. All the sanctities and decencies of e, all that men hold most sacred and dear, he vioes and seems to contemn. One not acquainted ith the style in which it has been his custom to deunce his enemies might doubt the soundness of his ind while reading this vulgar outpouring of his alice, so much is it like the railing of the insane an against his best friends. And why all this? the ader will naturally inquire. Because, as he deares, "I had the folly and impudence," in my valeictory lecture to my class a year ago, "to pretend be one of the founders of the Louisville Medical stitute." I claimed to be one of the six professors ho taught its first class, and to have worked hard the places assigned me. Surely a most flagrant sumption! Most unparalleled impudence! A most ople apology for a foul stream of personal abuse naing through nearly three columns of a newspa-r!

Painful as it is to continue this controversy, I nevtheless feel constrained to take some notice of this ticle. I shall do so very briefly, and, notwithanding its base character, shall endeavor to do so mperately. Fortunately the preceding reply furshes a sufficient answer to most of its pitiful estions, and I may now pass them by unno ed.

The reader who has any knowledge of what has nspired in the politics of Western medical schools, the last thirteen years, will feel some surprise at rning that Dr. Caldwell has brought himself to point of asserting that I was the only professor pelled" from the Transylvania Medical School in disruption of 1837. He admits that this assertion the face of all that has heretofore been said and ieved on the subject; nevertheless he ventures to se it. He is a bold man, or else he has a very short mory. Can he have forgotten that the Board of stees of Transylvania University kept a record in stated that *he* was "expelled" and he alone of all the professors—that he was expelled, however unjustly, at least irrevocably, and, I believe, unanimously? Can he have forgotten that after his expulsion the faculty was dissolved, and dissolved with the avowed object of effecting a reconciliation of differences among the remaining professors? Can he have forgotten his own letter to me on the subject, in which he says: "Cooke and yourself are to be reinstated only at the solicitation of Dudley, and I, from having sinned beyond forgiveness, am dismissed!" Has he forgotten the letter of Mr. Wm. A. Leavy, one of the board, and one of the best of men, written to me during the progress of those events and published at the time, stating that Mr. *Wickliffe*, chairman of the board, avowed, while offering the resolution dissolving the faculty, that "a leading object with him (Mr. W.) was the hope of seeing harmony restored among the professors, and particularly his wish from his view of Dr. Yandell's talents, character, and influence, that the college should retain him as a professor?" Has he forgotten what Mr. Leavy adds, namely, that "in these sentiments, which were also avowed by one or two other members, I have no doubt *the great body of the board sincerely participated?*" That I could have been reinstated, Dr. Caldwell has never entertained a doubt; that I was not reinstated he knows perfectly well was because Dr. Dudley was *fully apprised* of my determination not to accept again. What *did* Dr. Caldwell counsel at the time? In a letter to me dated Louisville, March 31st, 1837, he says: "The true method to mortify Dudley and his board (for they *are* his) is for Cooke, Short, and yourself to allow them to make an open offer of reinstatement, and reject their offer without comment. This will also crush the school beyond all hope of recovery; for if you all thus reject, no man of any standing will afterwards accept." But Dr. Dudley was a little too wary to be caught in any such trap. He was firm against the wishes of the board, against reconciliation and against a reinstatement, which was to be thus turned against the school.

As to all that Dr. Caldwell alleges concerning my "tremulous vacillation," my "doubt and indecision," in respect to accepting the chair tendered to *me* in the Medical Institute of Louisville, I have *only* to say that my letter of acceptance to the President of the board of managers, written without a moment's delay—that all my letters to Dr. C. about that period, and all his letters to me—stamp falsehood upon its face. Moreover I may be permitted to add, the allegation harmonizes very completely with my old friend's conception of me at the time as being the man "to ride on the whirlwind and breast the troubled wave!"

But there is one charge in Dr. Caldwell's second attack which I must notice more seriously. It is to this effect: that while I never brought a student to the school by my "lectures," or by "my height, dignity, or weight of character," I have brought "pupils to it by artifice and management;" that I have "detained here, by artifice, in their passage to the North and East, many pupils" whom I could "[illegible]"

I confess I am at a loss with what epithets to brand this statement as coming from Dr. Caldwell. It is one of the worn out calumnies of two or three men whose names shall not pollute this page—of men who have oftener traduced Dr. Caldwell than myself, and whose abuse he has as often declared he took to be the highest eulogy they could bestow upon him. It is this miserable, threadbare, most contemptible slander which, with real or affected indignation, he has himself a hundred times scouted, that now, the bitterness of his hate and without any show of shame or remorse, he comes forward to vamp up and start afresh upon his authority. I will not trust myself to speak of such conduct in the terms it deserves. But suppose I had acted in the manner that these men and Dr. Caldwell say that I did, where does he place himself by becoming my accuser? Need I remind him of the maxim of the law in such cases? Was he not, at the time I was acting as he alleges, my colleague, and the most laudatory of colleagues? And if I inveigled students into stopping at our school, did not a fair share of the profits of the transaction inure to him? For every student thus "detained by artifice," did not *fifteen dollars* (a big sum in his eyes) find their way into his pockets? Out upon such a man! If his friends have any prudence, they will compel him henceforth and forever to abjure pen, ink, and paper. It is plain that he has forgotten everything—he has even forgotten that he belongs to an honorable profession.

Dr. Caldwell's account of the circumstances under which I was transferred by the Board of Trustees to the chair of physiology and pathological anatomy is of a piece with all his other statements; it is not necessary that I should characterize it. I have shown how easy it is for him to contradict himself. If he should live and be permitted to write a few years longer, he will, in all probability, give the lie to this as he has done to so many of his other fabrications. The facts of the case referred to are simply these: Dr. Bartlett having declined to accept the chair in question, it became necessary to consider what disposition should be made of it in the event of its being vacated. Various plans were proposed and discussed. Some thought that a chair, which had fallen into such disrepute by reason of the manner in which it had been long filled, might with great propriety be abolished. While the several schemes, and this among the rest, were under discussion, the board concluded to settle the matter in their own way, according to the best light before them, and so elected me to the chair of physiology and pathological anatomy, and elected Dr. Silliman professor of chemistry. There was no nomination in either case nor did either of us ask for a nomination. The whole was the board's, and I presume the board are satisfied with the verdict pronounced by the public upon their proceedings. The school has gone on flourishing—the class is larger than the last—the most harmonious session known in the history of the institution is just drawing to a close, and the decision of the students, the best judges by far in the case, has gone abroad to the world. That decision, I shall be condoned for saying, is all that trustees or professors could desire. But, if it had been other than it is, I must say, I should not have given the board any trouble to "vacate" my chair, nor my colleague any pain to remind me of "faculty rules;" but I should not with cheerfulness, yet, I trust with dignity, have retired to that "farm in Tennessee," of which my old friend writes so much, into the bosom of that society which has known me from my boyhood, and into the ranks of my profession, where I shall deem it neither a disgrace nor a hardship to pass the days that may remain to me of active life.

My aged adversary warns me, in conclusion, that the grave, which cannot be far removed from us both, and may be near to us both, is not to silence his calumnies. From that resting-place, to which most men look as a place of peace, he threatens to pursue me with his malice, and, in a work "designed to be posthumous," to "suspend me on a gibbet," or inflict upon me the tortures of Marsyas. My poor old friend! Posterity, I apprehend, will little heed his words, past or to come, his bickerings, his hatreds, or his loves. But, if the threatened work should appear in my day, I shall not despair of being able to dispose as easily of his posthumous as I have found it to do of his living slanders; and if it should be delayed until after I am gone, I have no fears that I shall leave behind me those who will fully vindicate my memory against the aspersions of a man who has villified every associate he ever had, and now, at the close of an extremely long life, among all his numerous colleagues, living or dead, cannot count one single friend.

And now I hope I am done with Dr. Caldwell. He must indeed be very outrageous to call me out again. He has nothing to do but to vent his spleen—to abuse his old friends before dinner for an appetite and after dinner for digestion, but I have other and more profitable occupation than reply to the effusions of such an adversary. He must excuse me, therefore, and not take it as any disrespect, if I decline any further controversy with him.

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